United States Court of Appeals
For the
District of Columbia Circuit

FILED SEP 19 1950

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JOINT APPENDIX. VOLUME 8. (Pages 3205 to 3448.)

IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT.

188

No. 10,236.

PENNSYLVANIA WATER & POWER COMPANY and SUSQUEHANNA TRANSMISSION COMPANY OF MARYLAND,
Petitioners,
v.
FEDERAL POWER COMMISSION,
Respondent.

No. 10,239.

PENNSYLVANIA PUBLIC UTILITY COMMISSION,
Petitioner,
v.
FEDERAL POWER COMMISSION,
Respondent.

No. 10,531.

PENNSYLVANIA WATER & POWER COMPANY and SUSQUEHANNA TRANSMISSION COMPANY OF MARYLAND,
Petitioners,
v.
FEDERAL POWER COMMISSION,
Respondent.

PETITIONS TO REVIEW ORDERS OF FEDERAL POWER COMMISSION.

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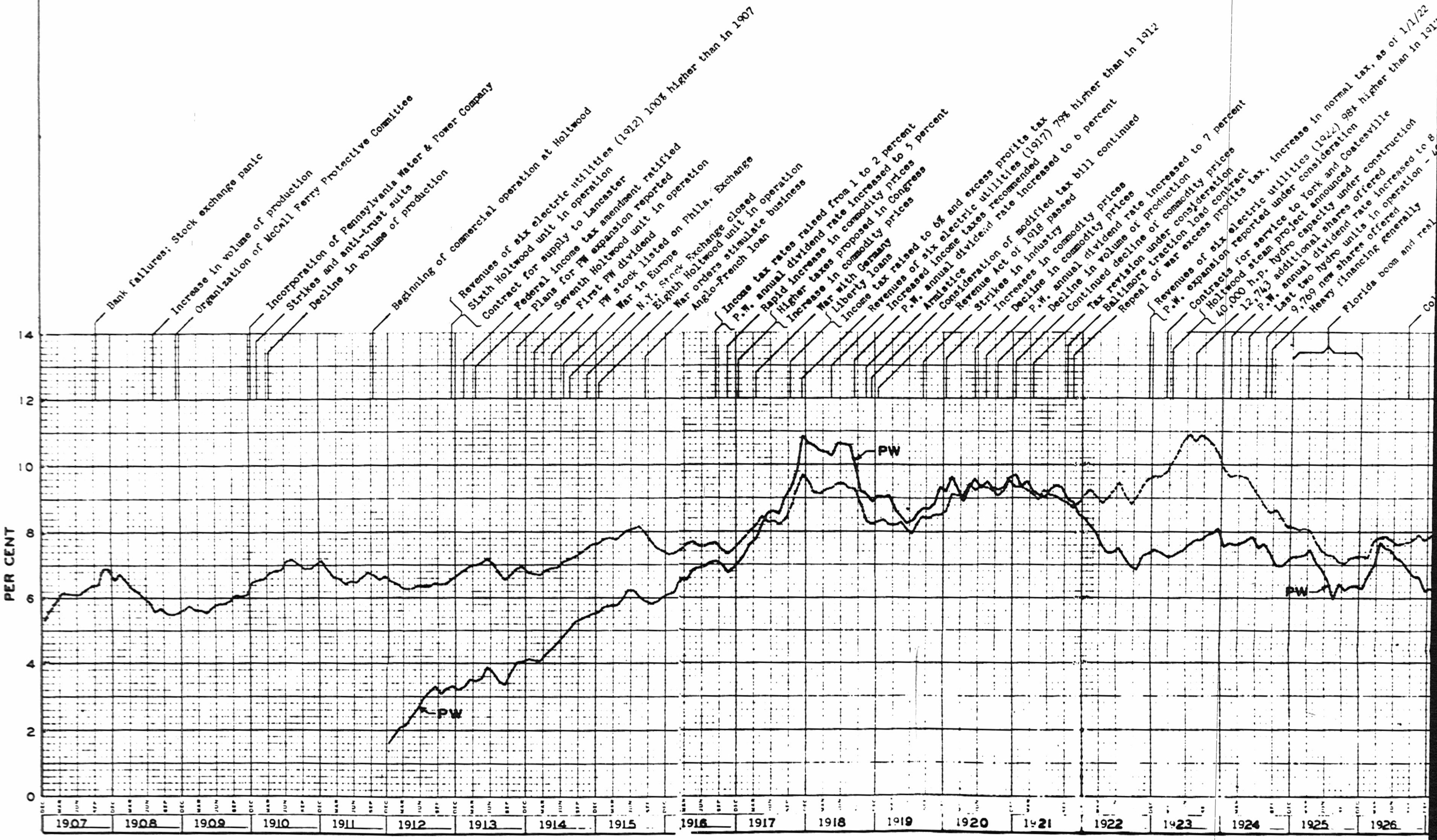
EXHIBIT NO. 29.

[22149]

PENNSYLVANIA WATER & POWER COMPANY
EXPERIENCED COST OF CAPITAL

ELECTRIC AND ELECTRIC COMBINATIO
MEAN OF MEDIAL FO
AND
PENNSYLVANIA WATER



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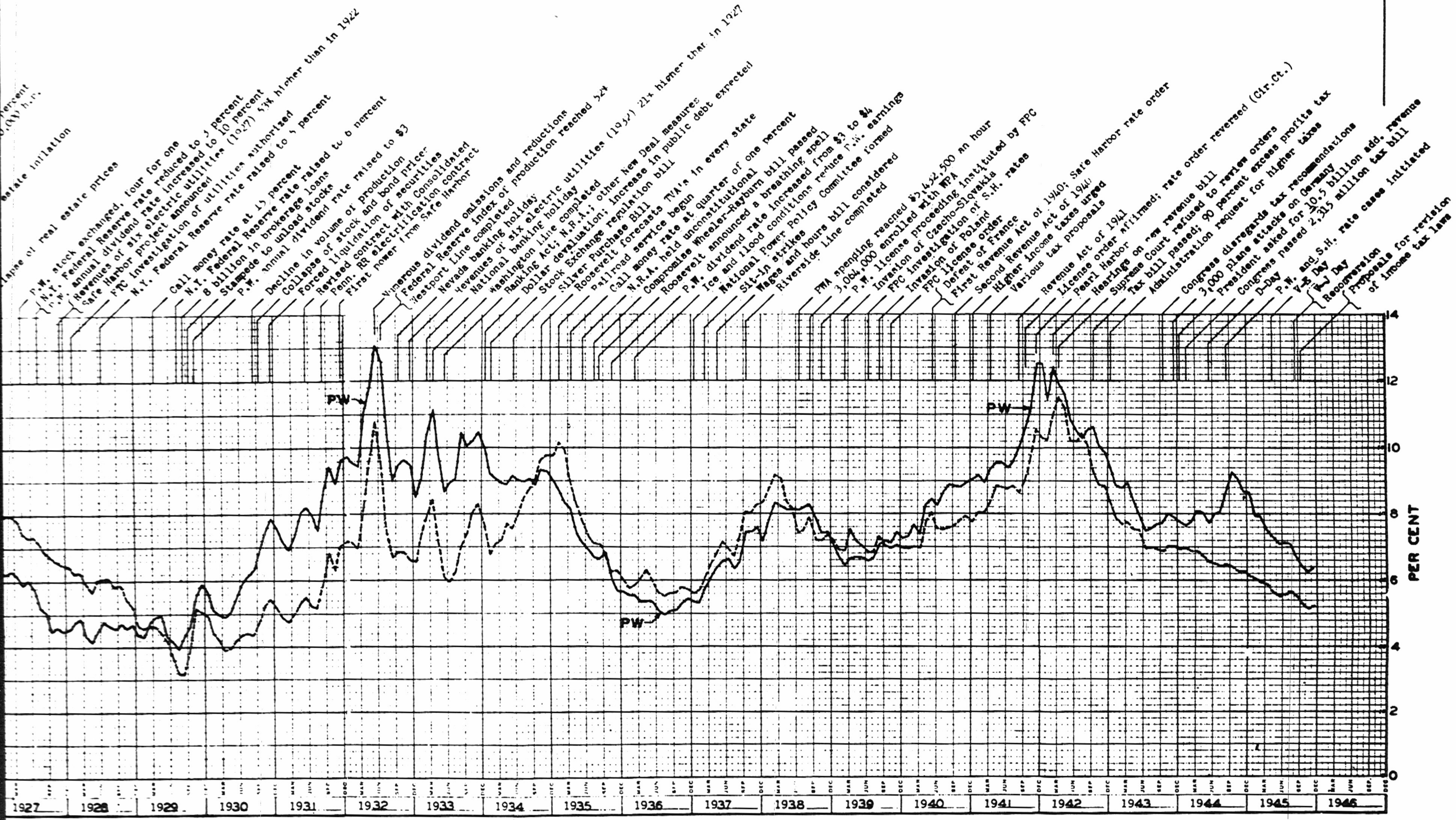

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Exhibit No. 29

Schedule 1

Pennsylvania Water & Power Company
Monthly Earnings - Price Ratios
January, 1912 to December, 1945

Year	January	February	March	April	May	June	July	August	September	October	November	December
1912	1.61	1.86	2.09	2.16	2.42	2.66	2.95	3.14	3.29	3.08	3.23	3.31
1913	3.21	3.27	3.53	3.46	3.54	3.87	3.72	3.44	3.35	3.72	4.01	4.02
1914	4.12	4.08	4.04	4.27	4.43	4.62	4.82	5.04	5.26	5.34	5.42	5.51
1915	5.54	5.74	5.75	5.77	5.95	6.23	6.22	6.05	5.89	5.82	5.89	6.01
1916	6.12	6.17	6.57	6.55	6.86	6.91	6.95	7.04	7.09	7.01	6.76	6.88
1917	7.08	7.30	7.63	7.78	8.21	8.56	8.61	8.52	9.02	9.27	9.82	10.86
1918	10.62	10.56	10.41	10.38	10.26	10.64	10.60	10.58	9.99	9.21	9.14	8.87
1919	9.04	9.02	9.06	8.60	8.44	8.23	8.35	8.59	8.69	8.68	8.85	9.36
1920	9.21	9.64	9.29	8.93	9.41	9.58	9.34	9.49	9.28	9.26	9.33	9.60
1921	9.69	9.38	9.51	9.22	9.12	9.05	9.28	9.39	9.34	8.96	8.89	8.52
1922	8.41	8.19	7.97	7.58	7.36	7.39	7.50	7.19	6.96	6.86	7.27	7.34
1923	7.45	7.39	7.26	7.25	7.37	7.45	7.62	7.76	7.76	7.89	7.94	8.12
1924	7.56	7.67	7.60	7.67	7.73	7.84	7.51	7.62	7.37	6.99	6.98	7.12
1925	7.25	7.24	7.28	7.46	7.06	6.85	6.49	5.98	6.43	6.23	6.38	6.39
1926	6.28	6.64	6.96	7.69	7.51	7.48	7.20	7.10	6.86	6.65	6.64	6.24
1927	6.30	6.21	6.31	6.17	5.87	6.03	5.75	5.19	5.05	4.47	4.61	4.49
1928	4.53	4.77	4.88	4.33	4.14	4.49	4.78	4.66	4.58	4.74	4.58	4.68
1929	4.36	4.27	4.74	4.92	4.97	4.33	4.15	3.91	4.30	4.63	5.53	5.92
1930	5.67	5.13	4.98	4.93	5.04	5.53	5.92	6.14	6.34	6.92	7.49	7.86
1931	7.56	7.17	6.88	7.36	8.04	8.20	7.97	7.58	8.67	9.44	8.91	9.64
1932	9.76	9.56	9.42	11.05	11.80	13.07	12.55	10.41	8.99	9.50	9.62	9.51
1933	8.50	9.09	10.43	11.18	9.68	8.64	8.95	9.06	10.47	10.04	10.20	10.49
1934	10.03	9.23	9.06	8.96	8.87	9.18	9.03	8.99	9.09	8.86	9.37	9.31
1935	9.02	8.74	8.35	8.18	7.41	7.13	6.92	6.68	6.64	6.83	6.02	5.67
1936	5.65	5.56	5.55	5.34	5.37	5.34	5.08	4.98	5.08	5.10	5.32	5.44
1937	5.37	5.34	5.75	6.09	6.37	6.57	6.63	6.34	6.56	7.43	7.46	7.61
1938	7.18	7.81	8.35	8.22	8.11	8.12	8.10	8.21	8.28	7.87	7.42	7.46
1939	7.10	6.69	6.42	6.64	6.66	6.65	6.57	6.65	7.08	7.18	7.10	7.43
1940	7.26	7.31	7.68	7.39	8.29	8.45	8.23	8.69	8.92	8.86	8.82	8.94
1941	9.07	9.19	8.94	9.37	9.55	9.56	9.40	9.59	10.05	10.65	11.27	12.54
1942	12.53	11.41	12.44	11.94	11.62	10.82	10.51	10.29	10.55	10.62	10.08	9.88
1943	9.40	8.89	8.79	8.95	8.40	7.96	7.49	7.55	7.68	7.71	8.00	7.90
1944	7.77	7.64	7.76	8.07	8.03	7.71	8.00	8.02	8.64	9.28	9.06	8.66
1945	8.65	7.95	7.94	7.51	7.30	7.11	7.15	7.10	6.72	6.41	6.24	6.38

Exhibit No. 29

Schedule 2

Pennsylvania Water & Power Company
Gross Income, Its Disposition and Income Per Share of Common Stock(a)
1911 - 1945

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
		Income Deductions			Preferred Stock and Prior Requirements		Available for Common Stock		Available Per Common Share at End of Year		Dividends Paid per Common Share (at Dec. 31)	
Year	Gross Income	Amount	Percent of Gross Income	Preferred Stock Requirement	Amount	Percent of Gross Income	Amount	Percent of Gross Income	As Adjusted(a)	As Reported(b)	Amount	Percent of Earnings Reported Available(c)
1911	$ 417,326	$ 381,125	91.3	-	$ 381,125	91.3	$ 36,201	8.7	$ .43		-	-
1912	569,908	384,139	67.4	-	384,139	67.4	185,769	32.6	2.19		-	-
1913	630,000	434,500	69.0	-	434,500	69.0	195,500	31.0	2.30			
1914	765,552	443,575	57.9	-	443,575	57.9	321,978	42.1	3.79		$ 4.00	105.5
1915	858,300	514,278	59.9	-	514,278	59.9	344,022	40.1	4.05		4.00	98.8
1916	991,000	521,150	52.6	-	521,150	52.6	469,850	47.4	5.53		5.00	90.4
1917	1,066,300	518,550	48.6	-	518,550	48.6	547,750	51.4	6.45		5.00	77.5
1918	1,105,800	518,340	46.9	-	518,340	46.9	587,460	53.1	6.92		6.00	86.7
1919	1,149,300	532,850	46.4	-	532,850	46.4	616,450	53.6	7.26		6.00	82.6
1920	1,174,000	528,550	45.0	-	528,550	45.0	645,450	55.0	7.60		7.00	92.1
1921	1,196,290	524,938	43.9	-	524,938	43.9	671,352	56.1	7.90		7.00	88.6
1922	1,203,190	535,144	44.5	-	535,144	44.5	668,046	55.5	7.86		7.00	89.1
1923	1,354,600	593,900	43.8	-	593,900	43.8	760,700	56.2	7.79		7.00	89.9
1924	1,702,100	755,050	44.4	-	755,050	44.4	947,050	55.6	8.81		8.00	90.8
1925	1,856,300	750,000	40.4	-	750,000	40.4	1,106,300	59.6	10.29		8.00	77.7
1926	1,916,900	745,100	38.9	-	745,100	38.9	1,171,800	61.1	10.90		8.00	73.4
1927	2,009,400	740,300	36.8	-	740,300	36.8	1,269,100	63.2	2.95		2.50	84.7
1928	2,507,500	845,000	33.7	-	845,000	33.7	1,662,500	66.3	3.87		2.50	64.6
1929	2,717,600	840,200	30.9	-	840,200	30.9	1,877,400	69.1	4.37		3.00	68.6
1930	2,855,100	914,100	32.0	-	914,100	32.0	1,941,000	68.0	4.52		3.00	66.4
1931	3,096,300	1,040,163	33.6	-	1,040,163	33.6	2,056,142	66.4	4.78	4.78	3.00	62.8
1932	3,184,007	1,061,900	33.4	-	1,061,900	33.4	2,122,107	66.6	4.94	4.94	3.00	60.8
1933	3,169,640	1,064,220	33.6	16,873	1,081,093	34.1	2,088,547	65.9	4.86	4.86	3.00	61.7
1934	3,197,664	1,059,446	33.1	19,145	1,078,591	33.7	2,119,073	66.3	4.93	4.93	3.00	60.9
1935	3,327,970	1,055,780	31.7	107,465	1,163,245	35.0	2,164,725	65.0	5.04	5.09	4.00	78.6
1936	3,232,458	1,054,519	32.6	107,465	1,161,984	35.9	2,070,474	64.1	4.82	4.82	4.00	83.0
1937	3,356,773	1,099,662	32.8	107,465	1,207,127	36.0	2,149,646	64.0	5.00	5.00	4.50	90.0
1938	3,589,794	1,095,557	30.5	107,465	1,203,022	33.5	2,386,772	66.5	5.55	5.55	4.50	81.0
1939	3,001,200	710,500	23.7	107,465	817,965	27.3	2,183.235	72.7	5.08	4.81	4.00	83.2
1940	3,039,084	755,800	24.9	107,465	863,265	28.4	2,175,819	71.6	5.06	4.67	4.00	85.7
1941	3,003,416	773,581	25.8	107,465	881,046	29.3	2,122,370	70.7	4.94	4.66	4.00	85.8
1942	3,020,844	743,804	24.6	107,465	851,269	28.2	2,169,575	71.8	5.05	4.93	4.00	81.1
1943	2,989,392	730,530	24.4	107,465	837,995	28.0	2,151,397	72.0	5.01	4.67	4.00	85.7
1944	3,037,468	719,816	23.7	107,465	827,281	27.2	2,210,187	72.8	5.14	4.77	4.00	83.9
1945(d)	3,042,545	754,994	24.8	107,465	862,459	28.3	2,180,086	71.7	5.07	5.07	4.00	78.9

(a) Income as reported to stockholders is adjusted for the effect of non-recurring items, in order to state prospective income on the basis of the operating, demand and cost conditions existing during each past year, by reference to information supplied in the annual reports for that and prior years. The nature of each adjustment and certain other information available to stockholders with respect to prospective income are indicated in the attached notes.

(b) See attached "notes on reported earnings per share".

(c) Adjusted earnings per share, 1914-1930; reported earnings per share, 1931-1945.

(d) Moody's Public Utilities, Supplement, p. 1516. February 20, 1946.

Notes on Schedule 2

[22153] (page 1)

Pennsylvania Water & Power Company

Gross Income, its Disposition and Income per Share of Common Stock 1911-1945

1911

The plant was not considered in operation until 1911. 84,950 shares of $100 par value common stock had been issued in 1910.

$30,000 "transferred to contingent fund" by credit to surplus is excluded from gross income. The purpose of the transfer to "contingent fund" is not explained in the report for 1911. The income statement includes no provision for depreciation. At the end of 1911 $7,680,000 principal amount of 5% bonds, with interest requirements of $384,000, were outstanding, but no adjustment is made for this difference.

The 1910 report stated that expected income from signed contracts would reach $700,000, with capacity available for additional contracts. Not expected to be reached in the first year of operation. The income of last half of 1911 was double that of the first half. Results for the year obviously do not indicate normal operation. Development of additional storage and an additional unit of 16,000 hp. to be installed during 1912 was being planned by the engineers.

A pro-forma statement on the basis of the $700,000 is as follows:

Normal power sales	$700,000
Operating expense and taxes (a)	100,000
Contingency appropriation (against revenue variation, etc.)	30,000
Balance for investors	$570,000
Bond requirements (including bonds to be sold in 1912)	396,500
Balance for common stock	$173,500
Per share on 84,950 shares	$ 2.042

(a) Allowing for increased maintenance for plant operating on normal basis

1912

$50,000 "transferred to contingent account" is excluded from gross income. No provision was made for depreciation by charges to operating expenses or otherwise.

The additional unit of 16,000 hp. was placed in operation on November 1. A contract was entered into for supply to the Edison Electric Company at Lancaster, Pa., to be effective May 1, 1913, and it was announced that an additional unit of 16,000 hp. capacity (seventh) would be installed in 1913.

1913

The annual report states that "net revenues" of $302,662 (after interest on first mortgage bonds) was "disposed of as follows:

1. Transferred to depreciation fund	$150,000
2. Transferred to sinking fund	100,000
3. Transferred to contingent fund	50,000
Surplus carried to profit and loss	2,662."

[22154] (page 2)

This disposition includes the first provision for depreciation and an advance contribution to the sinking fund. The provision of $250,000 ($150,000 plus $100,000 out of a $200,000 payment by the Pennsylvania Railroad) as the equivalent of depreciation expense for the period of three years may suggest an annual allowance of from $80,000 to $90,000. It was reported that transmission improvements were expected to be "paid for" out of savings of energy currently being lost on account of overloading of existing circuits. Deduction is not made for both depreciation and contingent reserve appropriations.

Therefore, reported income available is adjusted as follows:

Reported gross income	$709,767
Less provision for depreciation	79,767
Adjusted gross income	$630,000
Bond requirement (including $185,000 of treasury bonds)	434,500
Balance for common stock	$195,500
Per share on 84,950 shares	$ 2.301

It was announced that the seventh unit was placed in operation on November 1, that the eighth unit (16,000 hp.) would be installed during 1914 and that the stock of the company would be "placed on a dividend basis in the near future."

1914

Reported net income in the amount of $411,978, together with a balance in earned surplus of $18,532 at the beginning of the year, was disposed of by the declaration of common dividends in the amount of $339,800 and a transfer of $90,000 "to contingent fund," leaving a balance of $710 in earned surplus.

The annual report included an explanation of the contingent fund as a reserve to equalize variations in water flow. The year 1914 was one of low water; $107,340 was charged to "contingent fund" and credited, apparently, to operating revenue. The eighth unit (16,000 hp.) was placed in operation on December 16, making a total of 112,000 hp. It is stated that no further construction expenditures were contemplated before 1917.

Reported gross income of $855,552 is adjusted by deduction of the contingent fund provision of $90,000. No provision was made for depreciation.

If the reported income deductions were adjusted to a year end basis, the balance for common stock would be $306,800 and the earnings per share would be $3.61 instead of $3.79.

1915

The annual report states that additional construction must be considered during 1916 to increase the capacity of the plant.

$73,164.57 was reported as "transferred to contingency fund". Since no provision is made for depreciation, reported gross income is adjusted by deducting approximately $90,000 instead of $73,164.57. If the reported income deductions of $514,278 were adjusted to a year end basis ($521,350), the balance for common stock would be $336,950 and the earnings per share would be $3.97.

[22155] (page 3)

1916

Reported net income in the amount of $619,850, together with a balance in earned surplus of $21,798 at the beginning of the year, was disposed of by the declaration of common dividends in the amount of $382,275, a transfer of $100,000 to "construction account," and a transfer of $150,000 to "depreciation fund," leaving a balance of $9,373 in earned surplus.

No construction was reported other than deepening of tailrace, which was being paid for out of available cash. Reported gross income of $1,141,000 is adjusted by deduction of $150,000, the amount credited to depreciation.

If the reported income deductions of $521,150 were adjusted to a year end basis ($518,550), the balance for common stock would be $472,450 and the earnings per share would be $5.56.

The quarterly dividend rate was increased to 1¼% beginning with the third quarter of 1916.

1917

Reported net income in the amount of $697,717, together with balance in earned surplus of $9,373 at the beginning of the year, was disposed of by the declaration of common dividends in the amount of $424,750, a transfer of $150,000 to "contingent account," a transfer of $75,000 to "reserve for sinking fund," and a charge of $50,500 representing "Red Cross subscription," leaving a balance of $6,840 in earned surplus.

Gross income is adjusted by excluding the $150,000 credited to the "contingent fund".

If the reported income deductions of $518,550 were adjusted to a year end basis ($515,600), the balance for common stock would be $550,600 and the earnings per share would be $6.48.

1918

Reported net income in the amount of $737,496, together with a balance in earned surplus of $6,840 at the beginning of the year, was disposed of by the declaration of common dividends in the amount of $467,225, a transfer of $150,000 to "contingent account," a transfer of $75,000 to "reserve for sinking fund," and a charge of $45,500 representing "Red Cross subscription," leaving a balance of $6,611 in earned surplus. Reported gross income is adjusted by excluding the $150,000 credited to the "contingent fund".

It was reported that sales to utility customers provide an increasing load factor because of decreasing proportion of total load carried by hydro plant.

If the reported income deductions of $518,340 were adjusted to a year end basis ($532,850), the balance for common stock would be $572,950 and the earnings per share would be $6.75.

The quarterly dividend rate was increased to 1½% beginning with the third quarter of 1918.

[22156] (page 4)

1919

Reported "net revenue" of $766,406, together with a balance in earned surplus of $6,611 at the beginning of the year, was disposed of by the declaration of common dividends in the amount of $509,700, a transfer of $150,000 to "contingent account," a transfer of $75,000 to "reserve for sinking fund," and a charge of $35,000 representing a donation to United War Work, Inc., leaving a balance of $3,317 in earned surplus.

Gross income is adjusted by excluding the $150,000 credited to "contingent fund."

1920

Reported "net revenue" of $815,410, together with a balance in earned surplus of $3,317 at the beginning of the year, was disposed of by the declaration of common dividends in the amount of $552,175, a transfer of $170,000 to "depreciation reserve," and a transfer of $95,000 to "contingent account," leaving a balance of $1,552 in earned surplus.

The annual report indicates adoption of depreciation accounting. The withdrawals from "contingent fund" have been insignificant and it is reasonable to consider further credits to the "contingent account" as segregations of surplus. Reported gross income is adjusted by excluding the $170,000 credited to the depreciation reserve but not the $95,000 transferred to the "contingent account".

If the reported income deductions of $528,550 were adjusted to the year end basis ($523,950), the balance for common stock would be $650,050 and the earnings per share would be $7.65.

A new contract with the Baltimore Company provided higher charges for power. The need for keeping rates favorable to the customers, as a means of assuring permanence of the market, was recognized. Attention was called to the settling of "river coal" in the reservoir and the possibility of its recovery on an attractive basis.

The quarterly dividend rate was increased to 1¾% beginning with the third quarter of 1920.

1921

Reported "net revenue" of $841,477, together with a balance in earned surplus of $1,552 at the beginning of the year, was disposed of by the declaration of common dividends in the amount of $594,650, a transfer of $170,125 to "depreciation reserve" and a transfer of $75,000 to "sinking fund reserve," leaving a balance of $3,254 in earned surplus.

Reported gross income is adjusted by excluding the $170,125 credited to the depreciation reserve.

If the reported income deductions of $524,938 were adjusted to the year end basis ($536,200), the balance for common stock would be $660,100 and the earnings per share would be $7.70.

The contingent fund was charged on account of the subnormal river flow during 1921. The recovery of river coal was started and a three-way contract involving the traction load in Baltimore was entered into.

[22157] (page 5)

1922

The reported "balance brought down" (revenue less expenses, taxes and maintenance) of $1,456,400 is adjusted by deducting $173,210 transferred to depreciation reserve and $80,000 transferred to "contingent fund" by charges to earned surplus. Because of low water conditions $362,900 was withdrawn from the contingent fund. Therefore, the inclusion of the transfer to "contingent fund" is reconsidered for this year.

If the adjustment of gross income were limited to the charge for depreciation and if the reported income deductions of $535,144 were adjusted to the year end basis ($551,950), the balance for common stock would be $731,250 and the earnings per share would be $8.61.

It was reported that construction of a steam plant to burn river coal and completion of the hydroelectric development were being considered.

1923

Frequency converter equipment of 13,000 hp. was reported installed. Two additional generating units of 20,000 hp. each (66 instead of 25 cycle), were under construction, and were expected to be completed by April 1, 1924. Agreements to be effective April 1, 1924 were made with the Edison Light and Power Company of York, Pa. and with the Chester Valley Electric Company of Coatesville, Pa., for wholesale delivery of power, and related transmission lines were under construction.

The reported "balance brought down" (revenue less expenses, taxes and maintenance) was $1,530,024; $175,410 was transferred to depreciation reserve and $93,000 to "contingent fund" by charges to earned surplus. The balance in the "contingent fund" is $730,500 and income is not adjusted for the additional transfer.

Dividends were paid on 12,743 additional $100 par value shares, outstanding during the third and fourth quarters, making a total of 97,693 shares.

Reported income is adjusted as follows:

Gross revenue		$2,124,400
Expenses	$594,400	
Depreciation	175,400	769,800
Balance for investors		$1,354,600
Bond requirements		593,900
Balance for common stock		$760,700
Per share on 97,693 shares		$ 7.787

1924

It was reported that the last two hydroelectric units had gone into operation and that the decision to build a steam plant with 30,000 hp. initial capacity to use river coal had been taken. A new subsidiary was formed to build and operate the plant (Holtwood Power Company).

The reported "balance brought down" (revenue less expenses, taxes and maintenance) was $1,912,107; $210,010 was transferred to depreciation reserve and $130,000 to "contingent fund" by charges to earned surplus.

Dividends were paid on 9,769 additional $100 par value shares, outstanding during the third and fourth quarters, making a total of 107,462 [22158] (page 6) shares (a premium of $122,113 was realized from the sale of the additional 9,769 shares).

Reported income is adjusted as follows:

Gross revenue		$2,686,500
Expenses	$774,400	
Depreciation	210,000	984,400
Balance for investors		$1,702,100
Bond requirements		755,050
Balance for common stock		$ 947,050
Per share on 107,462 shares		$ 8.81

1925

The reported "balance brought down" (revenue less expenses, taxes and maintenance) was $2,077,113; $220,850 was transferred to depreciation reserve and $140,000 to "contingent fund" by charges to earned surplus.

The steam plant was in operation and the year was one of low river flow. Reported income is adjusted as follows:

Gross revenue		$2,960,400
Expenses	$883,300	
Depreciation	220,800	1,104,100
Balance for investors		$1,856,300
Bond requirements		750,000
Balance for common stock		$1,106,300
Per share on 107,462 shares		$ 10.29

1926

The reported "balance brought down" (revenue less expenses, taxes and maintenance) was $2,146,953; $230,053 was transferred to depreciation reserve and $200,000 to "contingent fund" by charges to earned surplus.

The year was one of supernormal river flow; agreement as to tail-water level was reached with Susquehanna Power Company. Reported income is adjusted as follows:

Gross revenue		$3,103,700
Expenses	$956,700	
Depreciation	230,100	1,186,800
Balance for investors		$1,916,900
Bond requirements		745,100
Balance for common stock		$1,171,800
Per share on 107,462 shares		$ 10.90

1927

The reported "balance brought down" (revenue less expenses, taxes and maintenance) was $2,252,526; $243,144 was transferred to "reserve for renewals and replacements" and $200,000 to "contingent fund" by charges to earned surplus.

The year was one of above normal river flow. The reported income increased somewhat because of the merger of Holtwood Power Company and Pennsylvania Water & Power Company late in 1927 and the inclusion of the [22159] (page 7) income of Holtwood instead of the dividends received by Pennsylvania. Refunding of the Holtwood Company bonds at a saving was prospective.

Preliminary work and surveys under way on the Safe Harbor project; the land and riparian rights were owned. A new forty-three year contract was entered into with Consolidated Gas Electric Light and Power Company of Baltimore, which included provision for adjustment for charges in "factors entering into determination of the value of power supplied."

Effective May 31, 1927 the outstanding 107,462 $100 par value common shares were changed to stock without par value on the basis of four shares of new stock for each share of old stock. (Prices of the new shares reported for July) Common dividends were paid at the rates of 2% for the first two quarters, and 62½ cents for the second two quarters of the year.

Reported income is adjusted as follows:

Gross revenue		$3,525,300
Expenses	$1,272,800	
Depreciation	243,100	1,515,900
Balance for investors		$2,009,400
Bond requirements		740,300
Balance for common stock		$1,269,100
Per share on 429,848 no par shares		$ 2.952

1928

The reported "balance brought down" (revenue less expenses, taxes and maintenance) was $2,853,060; $345,574 was transferred to "reserve for renewals and replacements" and $150,000 to "miscellaneous reserves" by charges to earned surplus.

The "contingent fund" was renamed the "equalization reserve" and $300,000 transferred to that account was not shown in the income statement.

The year was one of above normal river flow. The 6% bonds of Holtwood were refunded early in the year by 4½% Series B bonds.

A part of the increased amount shown as gross income was the result of including in the parent company accounts for the full twelve months of 1928 items which previously had been shown in a separate statement of Holtwood Power Company.

Engineering, design, surveys and property acquisitions continued for the Safe Harbor project.

Reported income is adjusted as follows:

Gross revenue		$4,388,100
Expenses	$1,535,000	
Depreciation	345,600	1,880,600
Balance for investors		$2,507,500
Bond requirements		845,000
Balance for common stock		$1,662,500
Per share on 429,848 shares		$ 3.868

[22160] (page 8)

1929

The reported "balance brought down" (revenue less expenses, taxes and maintenance) was $3,069,683; $352,102 was transferred to "reserve for renewals and replacements" and $120,000 to "miscellaneous reserves" by charges to earned surplus. The Safe Harbor Water Power Corporation was organized and construction was under way.

The amount of $352,102 is deducted from $3,069,683 to obtain the statement of gross income.

The quarterly dividend rate was increased from $0.625 to $0.75 for the last quarter of 1929.

1930

The reported "balance brought down" (revenue less expenses, taxes and maintenance) was $3,210,219; $355,147 was transferred to "reserve for renewals and replacements," $400,000 to "equalization reserve," and $120,000 to "miscellaneous reserves" by charges to earned surplus.

An unprecedented drought in 1930 resulted in the lowest "stream flows ever recorded in the eastern central states." Substantial withdrawals were made from the stabilizing reserve but more was credited than was taken out. Attention was called to the fact that $161,193 more was paid out in common dividends than during 1929.

Reported income is adjusted as follows:

Gross revenue		$4,835,600
Expenses	$1,625,300	
Depreciation	335,200	1,980,500
Balance for investors		$2,855,100
Bond requirements		914,100
Balance for common stock		$1,941,000
Per share on 429,848 shares		$ 4.416

1931

Reported "net revenues" of $3,096,304 do not require adjustment, but bond interest in the amount of $1,066,800 is substituted for the actual requirements of $1,040,163.

Under a new power agreement dated June 1, 1931 the annual payments of Consolidated to Pennsylvania and of Pennsylvania to Safe Harbor took "the form of annual sums independent of the amount of output. Hence it will no longer be necessary for your company to equalize its earnings to eliminate the effect of variations in river flow as heretofore. . . . The new contractual arrangement with the Consolidated Company covers a period of forty-eight years and constitutes virtually a guarantee of earnings on your Company's capital stock, since all the payments which the Consolidated Company is obligated to make to your Company are an operating expense of that company and thus come ahead of the dividends on its own preferred and common stock." (Annual Report).

Following the power agreements of 1931 the equalization reserve was reduced and the excess carried to "miscellaneous reserves," where it was available for write-down of unamortized debt discount and expense. A contingent liability to Consolidated Gas Electric Light and Power Company of Baltimore until 1937 was reserved for and a twenty year agreement for Electrification of the Pennsylvania Railroad was announced on October 7.

[22161] (page 9)

The first two units of the initial installation of six units at Safe Harbor began to deliver power to Baltimore in December.

1932

No adjustment of reported income is required. It is stated that the issuance of $5 preferred stock has been authorized and that a transmission line to Washington is under construction. The Safe Harbor Company went on a normal operating basis as of July 1.

1933

3,829 shares of $5 preferred stock, with total dividend requirements of $19,145 were sold to the common stockholders through subscription rights (offered in February, 1933).

No adjustment is made to reported income. If bond and preferred stock requirements were adjusted to the year end basis the result would be as follows:

Gross income		$3,169,600
Requirements of senior securities		
Bonds	$1,055,400	
Preferred	19,100	1,074,500
Balance for common stock		$2,095,100
Per share on 429,848 shares		$ 4.87

1934

No adjustment of reported income is required. Plans for selling additional preferred stock were announced.

1935

An additional 17,664 shares of preferred stock were sold privately during April, 1935, making a total of 21,493 shares outstanding on which the annual dividend requirements were $107,465.

Reported income is adjusted by substituting $107,465 for the actual preferred dividend requirements of $85,385. For the last quarter of 1935 the annual dividend rate was increased from $3.00 to $4.00.

1936

No adjustment of reported income is required. Earnings were affected by the worst ice and flood conditions (March) in the Company's experience. A retirement plan is placed in effect and provision made for past service liability.

1937

No adjustment of reported income is required. The second 220 kilowatt line from Safe Harbor to Baltimore was completed. For the first quarter of 1937 the dividend rate was increased to $4.50 per year. Revised system of accounts prescribed by the Federal Power Commission and the Pennsylvania Public Utility Commission effective January 1.

1938

No adjustment of reported income is required.

On September 2 the Federal Power Commission adopted an order directing Pennsylvania Water & Power Company to show cause why a proceeding should [22162] (page 10) not be instituted against the Company for operating the hydroelectric facilities without a license granted pursuant to the Federal Power Act.

On November 1 the Federal Power Commission instituted an investigation with respect to navigability of the Susquehanna River and the authority under which the Pennsylvania Water & Power Company's facilities were maintained.

Towards the end of 1938 the "reserve for renewals and replacements" reached 15% and under the operation of the contract with Consolidated the operating income of Pennsylvania Water & Power Company decreased by $22,990 during the period.

1939

The Federal Power Commission issued an order against Safe Harbor Water Power Corporation, dated July 25, instituting a proceeding to determine if the charges under the contract for electric service were unreasonable.

At the instance of the Maryland Commission a supplemental agreement was entered into on September 29 with Consolidated in lieu of a provision in the 1931 contract which reduced the charges for power by approximately $750,000 a year and "net earnings (after income taxes) available for dividends by approximately $600,000 a year".

On November 3 the Federal Power Commission issued an order directing the Company to file with the Commission an application for a license to operate and maintain the Holtwood project. The Annual Report for 1939 states "If it is ultimately established that your Company must accept such a license, then the value of the Company's Holtwood plant may be materially adversely affected both because its 'net investment' may actually be materially less than either the present fair value or present book value of the property in question and also because the Commission may not accept as satisfactory proof the only now available evidence of actual expenditures made many years ago."

The reported gross income of $3,289,192 is subject to the following adjustment on account of the reductions in the charges to Baltimore for power:

Reported Gross Income		$3,289,192
Effect of agreement effective December 1, 1939	$600,000	
Less effect of supplemental agreement effective throughout 1939	355,147	
Difference	$244,853	
Less effect of further reduction for month of December	20,404	220,449
Difference		$3,068,743
Less adjustment of income taxes for reduction of interest (at 20%)		67,590
Adjusted gross income		$3,001,153

3¼% refunding mortgage (due 1964) bonds in the amount of $10,900,000 were sold December 22, 1939 to provide funds for the retirement of the previously outstanding 5% bonds; 3¼% mortgage bonds (due 1970) in the amount of $10,962,000 were sold in March, 1940, to provide funds for the redemption of [22163] (page 11) a like amount of first mortgage 4½% bonds. The pro-forma interest requirements of these refunding bonds was $710,500.

1940

On February 8 the Company filed in the Court of Appeals a petition for review of the Federal Power Commission order requiring Pennsylvania Water & Power Company to file an application for a license.

On June 11 the Federal Power Commission issued an order reducing the rates charged by Safe Harbor to Consolidated and Pennsylvania in an amount of approximately $350,000 per year.

On September 10 Safe Harbor filed in the Circuit Court of Appeals a petition for review of the rate order of the Federal Power Commission.

Net income as reported was after an income deduction of $145,367 for amortization over a sixty-one month period beginning March 1, 1940, of debt discount, premium and expense applicable to the Series B bonds redeemed as of March 1, 1940. Income deductions (after consideration of the refunding) are adjusted by $90,258, determined by discounting $145,367 at 10% for five years.

The balance available for common stock was approximately $2,221,000 and the earnings per share were about $5.17 on the basis of income as reported to the Federal Power Commission.

1941

On October 28 the Circuit Court of Appeals affirmed the order of the Federal Power Commission directing Pennsylvania Water & Power Company to apply for a license. The Company appealed to the United States Supreme Court.

On December 2 the order of the Federal Power Commission directing Safe Harbor to reduce its rates was set aside by the Circuit Court of Appeals as beyond the jurisdiction of the Commission.

Income deductions are adjusted by $119,145, determined by discounting at 10% for four years the charge of $174,440 for amortization of debt discount, premium and expense related to the Series B bonds redeemed March 1, 1940.

The balance available for common stock was approximately $2,177,000 and the earnings per share were about

$5.06 on the basis of income as reported to the Federal Power Commission.

1942

On February 16 the Supreme Court refused to review the decision of the Circuit Court of Appeals affirming the order of the Federal Power Commission requiring Pennsylvania Water & Power Company to apply for a license.

On April 6 the Supreme Court refused to review the decision of the Circuit Court of Appeals which set aside a rate order of the Federal Power Commission with respect to Safe Harbor, and as a consequence, Safe Harbor collected the full contract rates.

Reported gross income of $3,100,844 is adjusted by deducting $80,000 of other income, consisting of a dividend of $0.80 per share received from Safe Harbor Water Power Corporation in adjustment "for the lesser dividends received in 1941 from that Corporation." (Annual Report) p. 5.

[22164] (page 12)

Income deductions are adjusted by $131,059, determined by discounting at 10% for three years the charge of $174,440 for amortization of debt discount, premium and expense related to the Series B bonds redeemed March 1, 1940.

The balance available for common stock was approximately $2,292,000 and the earnings per share were about $5.33 on the basis of income as reported to the Federal Power Commission.

1943

On December 3 the Federal Power Commission ordered issuance of a major license for the period terminating June 30, 1970, subject to conditions.

Income deductions are adjusted by $144,165, determined by discounting at 10% for two years the charge of

$174,440 for amortization and debt discount, premium and expense related to the Series B bonds redeemed March 1, 1940.

1944

On September 1 the Federal Power Commission ordered separate investigations to determine whether the rates of Pennsylvania Water & Power Company and Safe Harbor are just and reasonable.

On December 5 the Pennsylvania Public Utility Commission instituted an investigation on its own motion into the reasonableness of the rates charged by Pennsylvania Water & Power Company.

Income deductions are adjusted by $158,582, determined by discounting at 10% for one year the charge of $174,440 for amortization of debt discount, premium and expense related to the Series B bonds redeemed March 1, 1940.

1945

No adjustment.

[22165] (page 13)

Notes on reported earnings per share

1931 was the first year in which the income statement contained in the Annal Report to Stockholders included an item labeled "net income". Therefore, the "available per share as reported" is limited to the period 1931 to date.

Moody's, 1932, 347, states earnings per share for prior years as follows:

1931—$4.78
1930— 4.55
1929— 4.37
1928—$3.84
1927— 2.92

Moody's, 1927, 64, states earnings per share for prior years as follows:

1926—$10.90
1925— 10.41
1924— 9.81
1923—$8.26
1922— 8.81
1921— 7.90

The above statements by Moody's for the years 1921-1926 show "available for common dividends" after depreciation expense but before credits to contingent account and sinking fund reserve.

Moody's, 1924, 346, states earnings per share for prior years as follows:

1923—$6.54
1922— 7.86
1921— 7.90
1920—$6.48
1919— 7.26
1918— 6.92

The above statements by Moody's for the years 1918-1923 show "available for dividends" after credits to depreciation and contingency reserves.

Exhibit No. 29

Schedule 3

Electric and Electric - Combination Utility Earnings - Price Ratios
Mean of Medial Four of Six*
January, 1907 to December, 1945

Year	January	February	March	April	May	June	July	August	September	October	November	December
1907	5.37	5.62	5.90	6.16	6.15	6.13	6.13	6.25	6.37	6.40	6.87	6.89
1908	6.54	6.77	6.52	6.31	6.20	6.00	5.88	5.59	5.71	5.53	5.50	5.54
1909	5.62	5.77	5.63	5.61	5.54	5.71	5.80	5.82	5.92	6.07	6.05	6.10
1910	6.49	6.55	6.59	6.76	6.84	6.85	7.13	7.17	7.03	6.91	6.91	7.02
1911	7.13	6.88	6.67	6.60	6.45	6.53	6.52	6.63	6.79	6.72	6.58	6.68
1912	6.52	6.46	6.32	6.27	6.28	6.38	6.36	6.35	6.44	6.41	6.44	6.59
1913	6.69	6.82	6.97	7.00	7.05	7.19	7.02	6.74	6.54	6.70	6.87	6.96
1914	6.78	6.74	6.70	6.85	6.89	6.92	7.09	7.16	7.23	7.35	7.49	7.61
1915	7.67	7.79	7.81	7.78	7.93	8.03	8.08	8.17	7.98	7.70	7.51	7.42
1916	7.33	7.36	7.46	7.62	7.68	7.59	7.57	7.64	7.68	7.47	7.33	7.44
1917	7.68	7.81	8.02	8.19	8.46	8.29	8.32	8.21	8.39	8.77	9.25	9.71
1918	9.49	9.16	9.14	9.27	9.29	9.45	9.45	9.30	9.28	8.80	8.31	8.22
1919	8.32	8.36	8.20	8.20	8.28	8.08	7.94	8.28	8.46	8.41	8.52	8.53
1920	8.62	9.14	9.09	9.08	9.43	9.26	9.37	9.33	9.24	9.07	9.23	9.55
1921	9.33	9.34	9.26	9.12	8.98	9.25	9.10	9.07	8.95	8.87	8.71	8.87
1922	9.08	9.27	9.04	8.85	8.99	9.21	9.48	9.09	8.82	9.02	9.35	9.56
1923	9.66	9.66	9.78	10.04	10.39	10.72	10.92	10.70	10.88	10.79	10.61	10.33
1924	9.84	9.64	9.68	9.66	9.60	9.32	9.04	8.78	8.56	8.66	8.40	8.16
1925	8.16	8.06	8.08	8.03	7.67	7.42	7.32	7.29	7.10	7.05	7.21	7.24
1926	7.25	7.22	7.71	7.82	7.87	7.75	7.63	7.64	7.70	7.77	7.91	7.73
1927	7.86	7.99	7.98	7.85	7.46	7.30	7.33	7.16	6.86	6.71	6.59	6.49
1928	6.46	6.23	6.25	5.93	5.66	6.02	6.07	6.09	5.82	5.90	5.43	5.22
1929	4.66	4.56	4.65	4.63	4.45	4.19	3.66	3.15	3.14	3.87	5.18	5.06
1930	4.93	4.44	4.21	3.90	3.96	4.19	4.38	4.41	4.35	4.76	5.25	5.43
1931	5.18	4.90	4.74	5.00	5.30	5.49	5.21	5.18	5.91	6.81	6.31	7.04
1932	7.15	7.15	6.96	8.14	9.62	10.78	9.51	7.43	6.66	6.85	6.84	6.61
1933	6.57	7.31	7.89	8.42	7.12	6.09	5.97	6.26	7.00	7.40	8.05	8.31
1934	7.63	6.75	7.09	7.21	7.71	7.57	7.95	8.46	8.73	9.07	9.64	9.78
1935	9.75	10.15	9.95	8.99	8.29	7.76	7.32	7.10	7.10	6.79	6.27	6.29
1936	6.01	5.75	5.86	6.06	6.32	5.99	5.62	5.54	5.61	5.64	5.79	5.72
1937	5.61	5.71	6.16	6.50	6.80	7.16	6.94	6.73	7.32	8.04	8.02	8.26
1938	8.36	8.73	9.14	9.07	8.35	8.17	7.42	7.49	7.88	7.20	7.19	7.34
1939	7.22	6.88	6.87	7.55	7.18	7.01	6.85	6.84	7.32	7.01	6.96	7.03
1940	6.94	6.93	7.00	6.96	7.76	8.04	7.58	7.53	7.58	7.65	7.79	7.94
1941	7.74	8.03	8.03	8.31	8.82	8.80	8.76	8.84	8.63	9.03	9.67	10.58
1942	10.32	10.23	10.99	11.53	11.20	10.10	10.09	10.46	10.11	9.31	8.88	8.87
1943	8.38	7.87	7.71	7.74	7.57	7.55	6.99	7.00	6.94	6.91	7.06	7.01
1944	6.94	6.96	6.88	6.87	6.73	6.57	6.52	6.45	6.47	6.40	6.29	6.29
1945	6.14	6.04	5.97	5.90	5.66	5.54	5.59	5.67	5.55	5.30	5.16	5.22

* Commonwealth Edison Company, Detroit Edison Company, Boston Edison Company, Consolidated Gas Electric Light and Power Company of Balto., Pacific Gas and Electric Company and Consolidated Edison Company of New York (as predecessors); 1907 - 1910, inclusive, adjusted.

Exhibit No. 29

Schedule 4

Pennsylvania Water & Power Company
Experienced Cost of Debt Capital, Computed on a Sinking Fund Basis
(Amounts computed to nearest $100)

Issues Prior to 1923:
(Any uncompensated costs which may have been associated with these issues have been neglected in the following computation).

Issues Refunded in March, 1928, by First and Refunding Series B 4½%, due March 1, 1968:

	Offered In:	First and Refunding Series A 5½% due Oct. 1, 1953		Holtwood Series A 6% due Sept. 1, 1954	Total Three Issues
		Nov., 1923	July, 1924	Oct., 1924	
1.	Principal amount offered	$ 2,000,000	$ 1,000,000	$ 2,750,000	$ 5,750,000
2.	Discount and Expense at Offering	196,300	40,000	162,800	399,100
3.	Net Proceeds at Offering	$ 1,803,700	$ 960,000	$ 2,587,200	$ 5,350,900
4.	Ditto, in percent of Principal Amount	90.18	96.00	94.08	
5.	Periods of Amortization (a)	30 years	29 years	30 years	
6.	Cost Rate to Maturity (b)	6.225%	5.785%	6.450%	
7.	Percent of Principal Amount, After Accumulation of Amortization to Date of Refunding	90.79	96.22	94.32	
8.	Proceeds accumulated to Date of Refunding	$ 1,815,800	$ 962,200	$ 2,593,800	$ 5,371,800
9.	Annual Requirement at Date of Refunding	113,000	55,700	167,400	336,100
10.	Effective Average Cost Rate of Group of Issues (b)				6.256%
11.	Unamortized Discount and Expense at Date of Refunding (Item 1 minus Item 8)				$ 378,200
12.	Call Premium	$ 195,000		$ 192,500	387,500
13.	Duplicate Interest	none		none	none
14.	Tax Savings Due to Refunding Costs (Cr.)	(47,800)		(40,400)	(88,200)
15.	Total Amortizable Burden on this Group of Issues at Date of Refunding (Sum of Items 11, 12, 13 & 14)				$ 677,500
16.	Cash Requirement of Refunding (Sum of Items 15 and 8)				$ 6,049,300
17.	Net Proceeds of Refunding Issue (Item 23)				5,703,500
18.	Proportion of Old Bonds Refunded from Proceeds of New Issue (Item 17 ÷ Item 16)				94.284%
19.	Amortizable Burden Transferred to New Issue (Item 15 x Item 18)				$ 638,800
20.	Balance of Cash Requirement of Refunding, Met from Equity Funds (Item 16 less Item 17)				$ 345,800

22167

First and Refunding Series B 4½%, due March 1, 1968, Refunded in March, 1940, by Refunding and Collateral Trust 3¼%, due January 15, 1970.

	Offered in:	March, 1928	March, 1930	March, 1931	Total, Three Issues
21.	Principal amount offered	$ 6,000,000	$ 1,750,000	$ 3,500,000	$ 11,250,000
22.	Discount and Expense at Offering	296,500	210,300	272,000	778,800
23.	Net Proceeds of Offering	$ 5,703,500	$ 1,539,700	$ 3,228,000	$ 10,471,200
24.	Unamortized Costs of Refunded Issues Transferred (Item 19)	638,800	-	-	638,800
25.	Net Proceeds After Transferred Capital Costs	$ 5,064,700	$ 1,539,700	$ 3,228,000	$ 9,832,400
26.	Ditto, in Percent of Principal Amount	84.41	87.98	92.23	
27.	Period of Amortization (a)	40 years	38 years	37 years	
28.	Cost Rate to Maturity (b)	5.465%	5.230%	4.960%	
29.	Percent of Principal Amount After Accumulation of Amortization to Date of Refunding	86.25	89.33	93.08	
30.	Proceeds Accumulated to Date of Refunding	$ 5,175,000	$ 1,563,300	$ 3,257,800	$ 9,996,100
31.	Annual Requirement at Date of Refunding	283,000	81,800	161,600	526,400
32.	Effective Average Cost Rate of Entire Series (b)				5.266%
33.	Unamortized Discount and Expense at Date of Refunding (Item 21 less Item 30)				$ 1,253,900
34.	Bonds called for Sinking Fund				$ 288,000
35.	Principal Amount of Bonds Refunded				10,962,000
36.	Accumulated Proceeds with Respect to Item 35 (Item 30 x Item 35 ÷ Item 21)				9,740,200
37.	Unamortized Discount and Expense on Refunded Bonds				$ 1,221,800
38.	Call Premium				328,900
39.	Expense and Duplicate Interest				37,700
40.	Tax Credit				(212,800)
41.	Total Amortizable Burden Applicable to Refunded Bonds				$ 1,375,600
42.	Cash Requirements of Refunding (Sum of Items 36 and 41)				11,115,800
43.	Net Proceeds of Refunding Issue (Item 48)				11,205,900
44.	Percent of Old Issues Refunded From Proceeds of New				100.0

Exhibit No. 29

Issues Outstanding at December 31, 1945:

		Refunding and Collateral Trust 3¼%		
		Series Due Dec. 15, 1964 (c)	Series Due Jan. 15, 1970	Total
	Date Offered	Dec. 22, 1939	Jan. 27, 1940	
45.	Principal Amount Offered	$ 10,900,000	$ 10,962,000	$ 21,862,000
46.	Premium on Issue	218,000	328,900	546,900
47.	Expenses of Issue	(138,500)	(85,000)	(223,500)
48.	Net Proceeds at Issue	$ 10,979,500	$ 11,205,900	$ 22,185,400
49.	Unamortized Costs Transferred From Refunded Issue (Item 41)	-	1,375,600	1,375,600
50.	Net Proceeds After Transferred Capital Costs	$ 10,979,500(c)	$ 9,830,300	$ 20,809,800
51.	Ditto, in Percent of Principal Amount	100.73	89.68	
52.	Amortization Period (a)	25 years	30 years	
53.	Cost Rate to Maturity (b)	3.210%	3.830%	
54.	Remaining Term to Maturity at Dec. 31, 1945 (a)	19 years	24 years	
55.	Percent of Principal Amount After Accumulation of Amortization to Dec. 31, 1945	100.57	90.95	
56.	Proceeds Accumulated to Said Date	$ 10,962,100	$ 9,969,900	$ 20,932,000
57.	Annual Requirements as at Said Dates	351,900	381,800	733,700
58.	Effective Average Cost Rate to Maturity on Present Debt Capital (b)			3.505%

NOTES:

(a) Computed to nearest half-year.
(b) Computed to nearest .005 percent.
(c) The 3¼ series of 1964 was issued to provide for redemption at maturity of the original 5's of 1940 However, the proceeds of the 1964 series were more than sufficient to provide for the principal amount of the old issue plus the small amount of duplicate interest involved. For this reason, no costs related to the 5's of 1940 remain uncompensated at December 31, 1945.

Schedule 5

Pennsylvania Water & Power Company
Experienced Cost of Preferred Stock Capital

	3,829 Shares Issued March, 1933	17,664 Shares Issued April, 1935	Total
Gross proceeds	$ 373,328	$ 1,757,568	$ 2,130,896
Expenses	15,790	53,344	69,134
Net proceeds	$ 357,538	$ 1,704,224	$ 2,061,762
Annual requirements	$ 19,145	$ 88,320	$ 107,465
Effective cost rate	5.35	5.18	5.21

Exhibit No. 29

Schedule 6

Pennsylvania Water & Power Company
Overall Experienced Cost Of Capital as at December 31, 1945

			Percent of Total Capital
I. Division of Capitalization Among Security Issues: (b)			
A. Debt capital:			
1. Net proceeds, with amortization on sinking fund basis to Dec. 31, 1945, related to original principal amount of bonds now outstanding. (Schedule 4)		$ 20,932,000	
2. Less: Proportion applicable to bonds redeemed for the sinking fund.			
Original issue	$ 21,862,000		
Remaining bonds at 12/31/45	20,833,000		
Amount redeemed	$ 1,029,000		
Proportion of original issue redeemed	4.7068%	985,200	
Net proceeds of presently outstanding debt capital		$ 19,946,800	52.0
B. Preferred stock capital:			
Net proceeds (Schedule 5)		2,061,800	5.4
C. Equity capital:			
1. Balance of capitalization, per books, as at Dec. 31, 1945, after deduction of net proceeds of fixed income securities shown above. (Item D, less Items A and B)		16,349,900	42.6
Total capitalization (Item D, below)		$ 38,358,500	100.0
D. Statement of total capital at December 31, 1945 (b)			
1. Bonds outstanding		$ 20,833,000	
2. Preferred stock outstanding		2,130,900	
3 Common Stock, stated value		10,868,300	
4. Consolidated surplus:			
Reported amount	$ 6,298,300		
Less: Amount classified in Accounts 107 as at 1/1/37(a)	1,772,000	4,526,300	
Total capitalization		$ 38,358,500	

Schedule 6 (cont.)

Pennsylvania Water & Power Company
Overall Experienced Cost of Capital as at December 31, 1945

II. Computation of Overall Experienced Cost of Capital

	Reference	Proportion of Capital Supplied (Sec.I)	Applicable Cost Rates	Product Aggregate
Debt capital	Schedule 4	52.0%	3.50%	1.82%
Preferred stock capital	Schedule 5	5.4	5.21	0.28
Equity capital		42.6	9.25	3.94
Total		100.0%		
Overall cost rate				6.04%

Notes:

(a) From Statements H of Company's reports on Determination of Original Cost of Electric Plant Pursuant to Electric Plant Instruction 2-D of the Uniform System of Accounts...of the Federal Power Commission:

Items Proposed for Transfer to Earned Surplus –	
Pennsylvania Water & Power Company	$ (135,222.81)
Susquehanna Transmission Company of Pennsylvania	(423.32)
Pennsylvania Transmission Company	3,754.10
Total	(131,892.03)
Item Proposed to remain in Account 107	1,903,897.74
Total	$ 1,772,005.71

(b) On consolidated basis, per Company's annual report.

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PENNSYLVANIA WATER & POWER COMPANY

REPLACEMENT COSTS OF CAPITAL

EVIDENCE OF THE FAIR RATE OF RETURN IN RELATION TO AN ORIGINAL COST RATE BASE

Schedule 7

YIELDS ON PENNSYLVANIA WATER & POWER COMPANY 3¼ PERCENT BONDS
AND
MOODY'S INDEX OF YIELDS ON "AA" PUBLIC UTILITY BONDS

Period	"AA" Bonds	PW Bonds Series of 1964	PW Bonds Series of 1970
Jan., 1940	2.94	-	-
Feb.	2.94	2.93	2.98
Mar.	2.92	2.93	2.97
Apr.	2.88	2.85	2.93
May	2.99	2.96	2.99
June	2.99	2.98	2.99
July	2.92	2.93	2.97
Aug.	2.92	2.95	2.96
Sept.	2.88	2.86	2.92
Oct.	2.89	2.83	2.89
Nov.	2.86	2.82	2.88
Dec.	2.85	2.74	2.80
Average	2.92	2.89	2.93
Jan., 1941	2.88	2.82	2.86
Feb.	2.88	2.91	2.96
Mar.	2.87	2.88	2.98
Apr.	2.90	2.92	2.92
May	2.87	2.86	2.99
June	2.84	2.80	2.83
July	2.80	2.73	2.79
Aug.	2.81	2.67	2.73
Sept.	2.81	2.69	2.78
Oct.	2.76	2.68	2.77
Nov.	2.74	2.71	2.74
Dec.	2.85	2.90	2.85
Average	2.83	2.80	2.86
Jan., 1942	2.87	2.84	2.88
Feb.	2.91	2.83	2.85
Mar.	2.92	2.84	2.90
Apr.	2.89	2.81	2.91
May	2.89	2.77	2.84
June	2.89	2.82	2.89
July	2.86	2.87	2.89
Aug.	2.86	2.85	2.90
Sept.	2.85	2.83	2.85
Oct.	2.83	2.81	2.85
Nov.	2.81	2.80	2.86
Dec.	2.83	2.82	2.87
Average	2.87	2.82	2.88

Schedule 7 (cont.)

YIELDS ON PENNSYLVANIA WATER & POWER COMPANY 3¼ PERCENT BONDS AND MOODY'S INDEX OF YIELDS ON "AA" PUBLIC UTILITY BONDS

Period	"AA" Bonds	PW Bonds Series of 1964	PW Bonds Series of 1970
Jan., 1943	2.79	2.83	2.84
Feb.	2.76	2.82	2.81
Mar.	2.75	2.76	2.82
Apr.	2.75	2.72	2.79
May	2.74	2.69	2.76
June	2.71	2.75	2.72
July	2.68	2.71	2.72
Aug.	2.69	2.70	2.76
Sept.	2.70	2.71	2.81
Oct.	2.70	2.75	2.81
Nov.	2.73	2.78	2.81
Dec.	2.77	2.84	2.89
Average	2.73	2.76	2.80
Jan., 1944	2.74	2.82	2.85
Feb.	2.74	2.82	2.80
Mar.	2.72	2.79	2.78
Apr.	2.71	2.78	2.85
May	2.70	2.78	2.78
June	2.70	2.82	2.85
July	2.70	2.79	2.85
Aug.	2.69	2.80	2.82
Sept.	2.69	2.74	2.82
Oct.	2.72	2.70	2.78
Nov.	2.75	2.70	2.76
Dec.	2.72	2.69	2.77
Average	2.72	2.77	2.81
Jan., 1945	2.72	2.69	2.76
Feb.	2.69	2.67	2.75
Mar.	2.67	2.67	2.82
Apr.	2.70	2.67	2.72
May	2.69	2.68	2.79
June	2.65	2.78	2.79
July	2.63	2.83	2.79
Aug.	2.65	2.84	2.86
Sept.	2.66	2.76	2.74
Oct.	2.67	2.77	2.85
Nov.	2.64	2.77	2.83
Dec.	2.62	2.81	2.85
Average	2.67	2.74	2.80
Jan., 1946	2.57	2.75	2.80
Feb.	2.51	2.90	2.82
Mar.	2.49	2.90	2.92
Average	2.52	2.85	2.85

Exhibit No. 30

Schedule 8

Mortgage Bond Issues by Electric and Electric - Combination Utilities offered publicly during the Period April 1, 1945 to March 31, 1946

(1) Symbol	(2) Name of Issues	(3) Designation of Issue	(4) Principal Amount Issued	(5) Price to Public (Per Cent of Principal Amount)	(6) Proceeds to Issuer: Gross (Per Cent of Principal Amount)	(7) Proceeds to Issuer: Net (a) (Per Cent of Principal Amount)	(8) Yield to Maturity at Market Price (%)	(9) Cost Rate to Maturity (%)	(10) Per Cent of Adjusted Gross Income required for Equal and Senior Issues (c)	(11) Date of Offering	(12) Moody's Rating (b)
BNE	Buffalo Niagara Electric Corporation	First 2-3/4, Nov. 1, 1975	56,929,000	102.06	101.68	100.77	2.65	2.71	22.0	Dec. 13, 1945	Aa
CIF	Central Illinois Electric & Gas Company	First 3, Feb. 1, 1975	14,000,000	103.00	102.55	101.96	2.85	2.95	23.2	Apr. 19, 1945	Baa
CVQ	Central Vermont Public Service Corporation	First 2-3/4, D, Feb. 1, 1975	6,967,000	101.50	100.77	99.76	2.68	2.76	28.4	Apr. 11, 1945	A
CCJ	Cincinnati Gas & Electric Company (The)	First 2-3/4, Oct. 1, 1975	45,500,000	101.00	100.34	99.86	2.70	2.76	18.0	Oct. 18, 1945	Aaa
CLP	Connecticut Light and Power Company (The)	First & Ref., 3, K, Oct. 1, 1980	15,000,000	106.75	105.75	105.25	2.70	2.77	20.2	Oct. 3, 1945	Aaa
CSP	Consumers Power Company	First 2-7/8 Sept.1, 1975	113,825,000	102.37	101.68	101.23	2.76	2.81	25.7	Sept.12, 1945	Aa
DYR	Dayton Power and Light Company (The)	First 2-3/4, Oct. 1, 1975	28,850,000	101.62	101.14	100.48	2.67	2.73	17.1	Oct. 25, 1945	Aa
GGR	Georgia Power and Light Company	First 3, Mar. 1, 1975	2,500,000	101.95	101.51	99.51	2.90	3.02	26.8	May 8, 1945	Baa
LSD	Lake Superior District Power Company (g)	First 3, A, Oct. 1, 1975	5,600,000	102.50	100.55	(e)	2.88	(e)	23.0	Nov. 5, 1945	A
MDJ	Madison Gas and Electric Company	First 2-1/2, Jan. 1, 1976	4,500,000	102.25	101.56	99.96	2.39	2.50	15.2	Feb. 8, 1946	Aa
MEQ	Maine Public Service Company (g)	First & Coll. 2-7/8, Oct. 1, 1975	1,200,000(f)	101.25	100.28	(e)	2.81	(e)	13.4	Dec. 19, 1945	Baa
MNR	Minnesota Power & Light Company	First 3-1/8, Sept.1, 1975	26,000,000	102.46	101.71	101.19	3.00	3.06	24.2	Sept.19, 1945	A
MNP	Monongahela Power Company	First 3 Aug. 1, 1975	22,000,000	102.50	101.46	100.91	2.88	2.95	20.7	Aug. 24, 1945	A
MTP	Montana Power Company (The)	First 2-7/8, Oct. 1, 1975	40,000,000	101.00	100.28	99.76	2.83	2.89	19.1	Oct. 24, 1945	A
MSP	Mountain States Power Company (g)	First 3, July 1, 1975	7,500,000	101.95	101.26	(e)	2.90	(e)	20.5	July 13, 1945	Baa
NYR	New York Power and Light Corporation	First 2-3/4, Mar. 1, 1975	50,000,000	102.50	101.80	100.90	2.63	2.71	19.7	Apr. 11, 1945	Aa
NSP	Northern States Power Company (Minn.)	First 2-3/4, Oct. 1, 1975	75,000,000	101.00	100.34	99.87	2.70	2.76	20.6	Oct. 25, 1945	Aa
OD	Ohio Edison Company	First 2-3/4, Apr. 1, 1975	26,089,000	101.00	100.28	99.83	2.70	2.76	22.7	Apr. 11, 1945	A
PJ	Pacific Gas and Electric Company	First & Ref., 3, N, Dec. 1, 1977	49,000,000	105.30	104.80	104.43	2.75	2.79	23.5(d)	Oct. 18, 1945	Aa
PNP	Pennsylvania Power Company	First 2-7/8, Nov. 1, 1975	9,793,000	102.50	101.85	101.24	2.75	2.81	19.9	Oct. 26, 1945	A
PNR	Pennsylvania Power & Light Company	First 3, Oct. 1, 1975	93,000,000	101.38	100.66	100.40	2.93	2.98	26.6	Oct. 4, 1945	A
PGE	Portland General Electric Company	First 3-1/8, July 1, 1975	34,000,000	102.41	101.18	100.58	3.00	3.10	26.3	July 11, 1945	Baa
QI	Public Service Company of Indiana, Inc.	First 3-1/8, F, Sept.1, 1975	48,000,000	102.46	101.90	101.33	3.00	3.06	19.3	Sept.21, 1945	A
QOK	Public Service Company of Oklahoma	First 2-3/4, A, July 1, 1975	22,500,000	99.50	98.78	98.42	2.78	2.83	19.1	Oct. 19, 1945	Aa
SXJ	Sioux City Gas and Electric Company	First & Coll. Tr. 2-3/4, Dec. 1, 1975	8,000,000	100.62	100.08	99.17	2.72	2.79	19.5	Dec. 12, 1945	A
SWE	Southwestern Electric Service Company	First 3-1/8, May 1, 1975	1,550,000	102.25	101.15	(e)	3.01	(e)	17.3	Aug. 29, 1945	Baa
TES	Texas Electric Service Company (g)	First 2-3/4, Mar. 1, 1975	18,000,000	101.00	100.44	(e)	2.70	(e)	11.8	May 3, 1945	Aa
TXR	Texas Power & Light Company	First 2-3/4 May 1, 1975	26,600,000	100.75	100.15	99.48	2.71	2.78	18.3	May 23, 1945	Aa
UEM	Union Electric Company of Missouri	First & Coll. Tr. 2-3/4, Oct. 1, 1975	13,000,000	101.02	100.63	99.84	2.70	2.76	21.1	Oct. 24, 1945	Aa
VEP	Virginia Electric and Power Company	First & Ref. 2-3/4, E, Mar. 1, 1975	59,000,000	101.50	100.82	100.32	2.68	2.73	19.8	May 2, 1945	Aa
WLT	Western Light & Telephone Co., Inc.	First 3, A, July 1, 1975	6,200,000	101.95	101.10	99.85	2.90	3.01	20.8	Sept.6, 1945	A

Data from offering prospectus unless otherwise indicated:

(a) Expenses estimated, per prospectus. In a few instances expenses are arbitrarily apportioned among two or more issues sold simultaneously.
(b) Provisional as at time of issue.
(c) Adjusted to reflect effect of Federal income taxation on the basis of the Revenue Act of 1945.
(d) Per 1945 report, adjusted. Results assumed to have been anticipated by investors.
(e) Not available.
(f) An additional $1,000,000 of this issue was sold privately at the same time.
(g) Data from Moody's Public Utilities - Prospectus not available.

Schedule 9

Cumulative Preferred Stock Issues of Electric and Electric Combination Utility Corporations Offered Publicly During the Period April 1, 1945 to March 31, 1946

(1) Symbol	(2) Name of Issuer	(3) Rate and Series	(4) Par Value	(5) Number of Shares Issued	(6) Price to Public per Share	(7) Proceeds to Issuer per Share Gross	(8) Proceeds to Issuer per Share Net	(9) Current Yield at Sale Price	(10) Cost Rate Corresponding to Net Proceeds	(11) Per Cent of Adjusted Gross Income required for Equal and Senior Issues (c)	(12) Date of Offering
A2P	Arizona Power Company (b)	5%	$100	12,000	101.00	(e)	(e)	4.95%	(e)	51.8%	Aug. 29, 1945
BNE	Buffalo Niagara Electric Corporation	3.60%	100	350,000	102.85	101.42	101.05	3.50	3.56%	39.2	Jan. 10, 1946
CIF	Central Illinois Electric and Gas Company	$4.10, A	100	30,000	102.00	100.09	99.52	4.02	4.12	30.9	Apr. 19, 1945
CNY	Central New York Power Corporation	3.40%	100	200,000	101.50	100.15	99.62	3.35	3.41	36.8	Mar. 21, 1946
CNR	Central Power and Light Company	4%	100	100,000	102.75	101.15	(e)	3.89	(e)	39.3	Dec. 21, 1945
CCJ	Cincinnati Gas & Electric Company (The)	4%	100	270,000	106.00	104.28	104.01	3.77	3.85	35.6	Oct. 18, 1945
IDP	Idaho Power Company	4%	100	39,413	105.50	104.00	103.50	3.79	3.86	43.4	July 19, 1945
IOR	Iowa Power & Light Company	3.30%	100	50,000	101.50	99.76	97.96	3.25	3.37	32.3	Feb. 19, 1946
MNP	Monongahela Power Company	4.40%	100	90,000	103.50	101.03	100.53	4.25	4.38	36.2	Aug. 24, 1945
NYR	New York Power and Light Corporation	3.90%	100	240,000	104.00	102.30	101.89	3.75	3.83	32.5	May 10, 1945
PTD	Potomac Edison Company (b)	3.60%	100	63,784	101.75	(e)	(e)	3.55	(e)	26.9(d)	Jan. 18, 1946
QOK	Public Service Company of Oklahoma	4%	100	98,500(a)	102.75	101.20	100.95	3.89	3.96	31.1	Oct. 19, 1945
SXJ	Sioux City Gas and Electric Company	3.90%	100	38,000	102.00	100.28	99.69	3.82	3.91	37.6	Dec. 12, 1945
SWE	Southwestern Electric Service Company	4.40%	100	10,150	103.00	100.77	(e)	4.27	(e)	35.3	Aug. 29, 1945
UEM	Union Electric Company of Missouri	$3.70	None	40,000	101.75	100.55	99.90	3.64	3.70	34.2	Oct. 24, 1945

Data from offering prospectus unless otherwise noted:

(a) Subject to prior exchange with holders of previously outstanding issues.
(b) Data from Moody's Public Utilities - prospectus not available.
(c) Adjusted to reflect effect of Federal income taxation on the basis of the Revenue Act of 1945.
(d) Per 1945 report, adjusted. Results assumed to have been anticipated by investors.
(e) Not available.

Schedule 10

Pennsylvania Water & Power Company
Overall Replacement Cost of Capital as at December 31, 1945

(1) Kind of Capital	(2) Proportion of Capital Supplied (%)	(3) Applicable Cost Rates	(4) Product Aggregate	(5) Proportional Division of Income (%)
I .Computation on the basis of the existing capitalization (Sch. 6)				
Debt capital (Schs.7 and 8)	52.0	2.78	1.446	25.9
Preferred stock capital (Sch. 9)	5.4	3.72	.201	3.6
Equity capital (Sch. 6)	42.6	9.25	3.941	70.5
Total	100.0			100.0
Overall replacement cost rate			5.6	
II Computation on the basis of 25 percent equity capital				
Debt capital (Schs.7 and 8)	55.0	2.83	1.557	31.7
Preferred stock capital (Sch. 9)	20.0	3.98	.796	16.2
Equity capital	25.0	10.25	2.563	52.1
Total	100.0			100.0
Overall replacement cost rate			4.9	

Schedule 11

Pennsylvania Water & Power Company

Application of Evidence of the Competitive Return as a Test of Reasonableness of the Regulated Return, Assuming Adoption of an Original Cost Rate Base.

I	Consolidated original cost of plant as at December 31, 1945	$ 36,704,706		
	Plus working capital estimate	977,160		
	Total	$ 37,681,866		
II(a)	Estimated cost of constructing, as of December 31, 1945, a substitute new plant capable of providing the same service	$ 55,394,792		
	Plus working capital estimate	977,160		
	Total	$ 56,371,952		
	Annual return at 4.9 per cent (Sch. 10)		$ 2,762,000	
	Rate of return required to provide an equivalent return on original cost as the rate base			7.3
II(b)	Consolidated original cost as of December 31, 1945	$ 36,704,706		
	Plus 42.6 per cent of the difference between original cost and the cost of a substitute plant	7,961,977		
	Plus working capital estimate	977,160		
	Total	$ 45,643,843		
	Annual return at 5.6 per cent (Sch. 10)		2,556,000	
	Rate of return required to provide an equivalent return on original cost as the rate base			6.8
III(a)	Trended cost of construction of physical properties, as of December 31, 1945	$ 62,410,377		
	Plus working capital estimate	977,160		
	Total	$ 63,387,537		
	Annual return at 4.9 per cent (Sch. 10)		3,106,000	
	Rate of return required to provide an equivalent return on original cost as the rate base			8.
III(b)	Consolidated original cost as of December 31, 1945	$ 36,704,706		
	Plus 42.6 per cent of the difference between original cost and the trended original cost of construction	10,950,616		
	Plus working capital estimate	977,160		
	Total	$ 48,632,482		
	Annual return at 5.6 per cent (Sch. 10)		2,723,000	
	Rate of return required to provide an equivalent return on original cost as the rate base			7.

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Schedule 11 (continued)

Pennsylvania Water & Power Company

Application of Evidence of the Competitive Return as a Test of Reasonableness of the Regulated Return, Assuming Adoption of an Original Cost Rate Base.

7(a)	Nominal dollar investment adjusted for changes in purchasing power of the dollar to 1945	$ 50,093,000		
	Plus working capital estimate	977,160		
	Total	$ 51,070,160		
	Annual return at 4.9 per cent (Sch. 10)		$ 2,502,000	
	Rate of return required to provide an equivalent return on original cost as the rate base			6.6
7(b)	Consolidated original cost as of December 31, 1945	$ 36,704,706		
	Plus 42.6 per cent of the difference between original cost and the nominal dollar investment adjusted for changes in purchasing power of the dollar to 1945	5,703,000		
	Plus working capital estimate	977,160		
	Total	$ 43,384,866		
	Annual return at 5.6 per cent (Sch. 10)		2,430,000	
	Rate of return required to provide an equivalent return on original cost as the rate base			6.4

EXHIBIT No. 31

[22178]

Cost of Constructing the Entire Physical Properties of the Pennsylvania Water & Power Co.

and the

Susquehanna Transmission Company of Maryland
as of December 31, 1945

March 26, 1946

A study has been made of the cost of constructing and reproducing the entire physical properties of the Pennsylvania Water & Power Company and of the Susquehanna Transmission Company of Maryland as of December 31, 1945. This study was undertaken to determine what would be the cost of reproducing these properties as of December 31, 1945 by the use of modern construction methods.

The prices and costs as of December 31, 1945 will be hereinafter referred to as present day costs, although there have been increases in labor rates and the prices of materials in January and February 1946 and other increases have been authorized or are contemplated. For example, the union scale of wages in Baltimore for common labor went up from 80¢ per hour to 95¢ per hour on January 2, 1946. Truck drivers on December 31, 1945 were getting 75¢ per hour. A wage increase to $1.00 per hour may go into effect shortly. Likewise, the union wage scale for carpenters which was $1.67½ per hour on December 31, 1945 may soon go to $1.77½ per hour. Cement finishers will soon be increased from $1.50 to $1.72½ per hour. An increase in the price of steel by $5.00 per ton was authorized by the Federal Government on February 18, 1946. The present period, characterized by strikes and shortages of many materials is one of rapidly rising prices and costs.

Ceiling prices still prevail on many construction materials. Quotations being made on materials and equipment are usually subject to the price prevailing at the time of delivery. Deliveries for the most part are lengthy or indefinite. Contractors in general are unable to bid lump sum prices without large elements of contingencies to take care of the inflationary trend. Government contracts are being placed with escalator clauses. In view of all of these circumstances and the present unsettled period, we have in our study considered the prices and wage rates frozen as of December 31, 1945.

Methods Used in Determination of Present Costs of Construction

The cost of constructing or reproducing the physical properties of the Companies as of December 31, 1945 is based upon trending the original cost of the properties year by year to the present time. Retirements were deducted according to the year of installation so that the dollars that remain in each account represent the actual original cost of the surviving property, in other words, the actual original cost of the present property according to the year in which the money was spent. An exception to this has been made in the Holtwood Hydro Plant and the early transmission lines and substations, all of the original investment prior to the year 1912 being considered as made in 1912.

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The history of the Companies was studied and a chronological statement has been prepared which shows that 57.4 per cent of the hydro property surviving was installed initially and that for the most part, the subsequent additions have been major ones. From the standpoint of reproduction, therefore, the method used lends itself to the single impulse theory of reproducing the entire property at one time. Deductions have been made or taken into account to allow for any factor for so-called "piecemeal" construction. Even if the entire property were reproduced under the single impulse theory certain elements would be placed in operation when completed and the construction of the remainder would be carried on while maintaining operation.

The dollars of the surviving original investment have been further segregated year by year in each account into labor, materials, and overheads. The materials have been further broken down into 26 classifications as follows:

1. Rails—Steel for R. R. track
2. Lumber—Timbers for cofferdam and heavy construction
    Forms for concrete work
    General lumber for houses and building purposes
3. Concrete—Concrete for the Dam and appurtenances
    Concrete for Hydro and Steam Plant Substructures and Superstructure
    Concrete for Cable Tunnels
    Concrete for Substation Buildings
    Concrete for Transmission Tower Footings
    Concrete for Bus Compartments and floors
4. Structural Steel—Fabricated Structural Steel
    Transmission Line Towers and Structures
    Substation Structures and Supports
5. Wire and Cable—Copper Power and Control Cable
6. Metal and Metal Products—Manufactured Products such as:
    Elevators, Lifts and Hoists
    Switchgear including Auxiliary Oil Circuit Breakers
    Lighting and Control Cabinets
    Meters, Instruments and Gage Panels

7. Pipe—All kinds of Metal Pipe, such as Steam and Oil Piping for Steam Plant, Hydraulic Piping and Oil Piping for Hydro Plant
   Cast Iron Water Mains
   Air Piping and Ash Sluices

8. Other Building Materials—All building materials except those which have separate indices. This includes doors, windows, roofing, etc.

9. Plumbing and Heating—Covers heating systems and plumbing fixtures.

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10. Reinforcing Bars—Steel reinforcing bars for reinforced concrete

11. Steel Plates and Tanks—Covers fabricated steel plate and tanks

12. Iron and Steel—Covers semi-manufactured products such as lighting beams, stairways, gates, trash screens, cranes, rolling stock, steam boilers, and superheaters, ash sluices, coal conveyors, cyclone separators, etc.

13. Copper—For use as copper bus, copper tubing and connecting straps
    Copper for transmission line, conductors, ground wires, and counterpoises

14. Aluminum—Covers aluminum conductors, and aluminum cable steel reinforced

15. Furniture—Office furniture and fixtures

16. Motor vehicles—Passenger cars and trucks

17 House furnishings—For office use

18. Other Mechanical Equipment—Large manufactured products such as Hydraulic Turbines and Generators Steam Turbine Generators, and Air Coolers, Feed Water Heaters and Pumps

Water Supply System and Sand Disposal System
Condensers and Hot Well
Condensate Pumps and Steam Jet Air Pumps
Raw Water Pumps
Auxiliary Electrical Equipment including Feeder Voltage Regulators, Storage Batteries, and Charging Equipment
Main Exciter Units
Compressed Air Pumps
Main Oil Circuit Breakers
Lighting System for Operators Village, etc.

19. Conduit—Metal conduit for station covering lighting and control cables

20. Brick—All common brick and brick for boiler settings

21. Railroad Track—In power plants and spur tracks—also used for railroad relocation work—includes grading, culverts and drains, ties, rails, fastenings, special work, track laying, ballast, road crossings

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22. Railroad Raising—Railroad relocation

23. Temporary Construction—Any temporary buildings afterward remaining for permanent use—none

24. Patrol Stations—For transmission lines

25. Village Houses—For Operators Village

26. General Overall—Largely labor items from which the labor dollars have been removed. A small amount of materials, blasting powder, dynamite

and caps, small tools, riprap where used, etc., in the following:

- Clearing, grading sites
- Excavations for dam, forebay and tailrace
- Power House substructures, cable tunnels, frequency converter foundations and for substation structures, and substructures for transmission towers and special structures
- Backfills and foundation preparations

The overheads have been further broken down year by year as the expenditures occurred into engineering, temporary construction facilities and payroll overheads, and taxes and interest.

In our determination of the present day costs of reproduction a study was made of the actual wage rates paid by the company and its predecessor for both skilled and common labor, and also of the union scale of wages in Baltimore, Philadelphia, and York, Pennsylvania for the various trades and for common labor. Since Holtwood is located about equidistant from Baltimore and Philadelphia, the largest labor markets in the area, and about 23 miles from York, Pennsylvania, it was assumed that in reconstructing the property about 40% of the labor would be drawn from Baltimore, 40% from Philadelphia and 20% from York. Composite rates were, therefore, developed for each skilled trade and for common labor on this basis with certain exceptions such as for hoisting engineers, crane and tractor operators, etc., for which there is no scale for York, these being normally drawn from Philadelphia.

In reproducing a property of this magnitude today, union labor would have to be used exclusively throughout on all of the construction work, although the Company does not now employ any union labor. However, no other kind of labor is available for construction work of any kind except possibly some small residence. The wage and hour law prevails and the prevailing scale of wages in each locality is the union wage scale. We have, therefore, used as of December 31, 1945 the union wage scales prevailing in Baltimore, Philadelphia, and York for the purpose of reproducing the property, but since the original dollars were put in by Company wage scales, we have trended the original dollars for labor to the December 31, 1945 union wage scale to obtain as closely as ascertainable the present cost of reproducing the property.

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To take into effect the large force that would be required for constructing the property under the single impulse theory and also to establish the proper proportion of skilled and unskilled labor, we have used the construction of the Safe Harbor plant, where very accurate construction cost records were kept, as a guide. From analyses of several Safe Harbor payrolls during 1930 and 1931, we have established a ratio of skilled and semi-skilled dollars and wage rates to common labor dollars and wage rates. This ratio was then applied to the ratio of the Company's skilled labor wage rates to its common labor wage rates each year, and a divisor thereby obtained so that the dollars of common labor and those of skilled labor were determined for each year, and each trended separately to December 31, 1945, and then recombined to obtain the present day value of the labor.

In the development of trend factors for materials, the indexes and average prices published by the United States Bureau of Labor Statistics were largely used as a guide with checks made from quotations and actual purchases made and from a study of the original contracts. In so far as obtainable today, identical equipment was used. When not obtainable, the modern substitute was used as a basis for determining present day prices, except in those instances when to do so would require a complete redesign of the plant.

The dollars for the different classes of materials were then added to obtain the total dollars of materials by years and these were then combined with the total dollars of labor.

Overheads, Indirect Costs and Direct Construction Costs

To the basic pay of labor and the direct costs of materials, certain other charges are always incurred, and must be added to arrive at what is commonly called the "Direct Construction Cost." Practice varies in regard to the additions of these charges and as to what is included in the "Direct Construction Cost."

Starting with labor, there must be added a factor to cover additional compensation for overtime for all hours worked in excess of the basic 40-hour week. Most contractors in their estimates on building construction figure 10% additional for a 48-hour work week, although actually on the basis of time and one-half for all hours in excess of 40, this figure is 8 1/3%. We have approached this problem on the basis of a composite labor force with 70% of the force working a 45-hour week (five 9-hour days), 20% working a 48-hour week (six 8-hour days), and 10% working a 54-hour week (six 9-hour days). This gives percentages for overtime pay of 5.56%, 8.33%, and 12.97% respectively, but when allowance is made for rainy days every other week, the composite figure for overtime pay is reduced to 3.428%. This we have used, throughout the work for the various accounts for both inside and outside work and should be considered a minimum for overtime pay.

To the labor dollars must also be added a factor for employees liability insurance (Workmens' Compensation), State and Federal Unemployment insurance, and Federal

Old Age Benefits. A study was made of the number of workers that would be employed in a composite labor force, classified as to occupations and the results of this study were as follows:

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	Total Insurance %	Labor Multiplier Incl. Overtime & Insurance
Pennsylvania		
Hydro Plant	5.66	1.09282
Steam Plant	5.17	1.08875
Transmission Lines	6.15	1.09799
Substations	6.00	1.09633
General Plant	5.60	1.093
Maryland		
Transmission Lines	7.54	1.11226
Substations	6.37	1.10016
General Plant	7.40	1.1108

In addition to the labor factors, there are other charges incurred in the design and construction of any large project whether the construction is carried on by contract, or with the owner's force. In a project of this magnitude, and because of the difficulty of the owner building up a large construction organization under present conditions of labor shortages, it is believed that the project could be constructed in less time and at less total cost by contracting for most of the work. There will, therefore, be incurred by the contractors certain expenses and in addition, thereto, a charge for the contractors' services.

To determine suitable bases for these charges, analyses have been made of the costs of the Safe Harbor Plant, the Holtwood Steam Station, the Transmission Plants, and the General Plants. The studies of Safe Harbor show actual costs in terms of percentages for indirect and overhead charges were as follows:

HOLTWOOD HYDRO PLANT INDIRECT COSTS	Percent of Labor and Payroll Overheads + Material Costs (Safe Harbor Costs)		Percent Used for Holtwood Hydro
Constructors Fees & Expenses			
Contractor's Engineering & Superintendence	0.835		
Contractor's Accounting & Purchasing	1.352		
Contractor's Office Furniture Supplies & Expenses	0.160		
Total Contractors Exp.		2.347	
Constructors Fee & Administrative Exp.	3.456		
Total Constructors Charges		5.803	5.8
Other Indirect Construction Costs			
Construction Equipment	4.363		4.4
Temporary Construction & Service Facilities	7.801		7.8
Insurance (Other than Employee)	0.423		0.4
Testing Equipment	0.035		Omitted
Camp, Commissary, Hospital, etc.	0.089		0.25
Furniture & Equipment	0.137		
Suspense Account	7.023		Omitted
Total		19.871	12.85
Total Inc. Contractors Fees & Expense		25.674	18.65

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HOLTWOOD HYDRO PLANT OVERHEAD CHARGES	Percent of Labor and Payroll Overheads + Material Costs (Safe Harbor Costs)	Percent Used for Holtwood Hydro
Engineering and Superintendence		
Consulting Engineers Fees & Expenses	0.547	0.50
Acct. 3941—Administrative	0.543	0.50
Acct. 3951—Eng. & Superintendence	7.667	7.50*
Acct. 3952—Accounting & Purchasing	0.220	0.25
Acct. 3953—Office Supplies Exp.	1.394	1.40
Total Engineering & Superintendence	10.371	10.15
Preliminary Operating Expenses	0.170	0.20
Total Before Interest & Taxes**	36.215	29.00
Taxes During Construction percent of above total	0.126	0.125
Interest During Construction percent of above total	5.783	5.875
	5.909	6.000

*Field 2.5%
Office 5.0%

**Excluding Legal Fees and Expenses

The suspense items included in accounts

3991	General Foreman, Guards, etc.
3992	Sickness and Vacations
3993	Small Tools
3994	Operation and Maintenance of Temporary Plant & Facilities
3995	Operation and Maintenance of Temporary Buildings
3999	Miscellaneous Charges

have been omitted from our application of indirect charges to the reproduction of the Holtwood Plant, because we were informed that these charges were in the original cost of the Holtwood Plant, and, therefore, would be duplicated. This does not apply, however, to our method of handling Account 321—Structures & Improvements, and 322—Dams and Waterways—due to our method of treating these accounts.

Legal Fees and Expenses amounting to $18,315 or 0.0105% of the labor and material base have been omitted from the application to Holtwood, because it is assumed that it would be covered in any valuation of water rights.

From the above percentages, multipliers were calculated to be applied separately to labor and material costs as shown below:

Material Multiplier

1.06 (Interest & Taxes) x 1.29 (Total before Interest & Taxes)

= 1.3674

Labor Multiplier

1.093 (Overtime and Insurance) x 1.3674 (Material Multiplier)

= 1.4946

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HOLTWOOD STEAM PLANT

For the Holtwood Steam Plant, we have determined the additional direct, indirect and overhead charges as follows:

INDIRECT COSTS	Percent of Labor + Overtime Pay + Insurance + Material	
Constructor's Fee & Expenses	(Same as Used on Holtwood Hydro)	5.8
Camp Commissary & Hospital	(Same as Used on Holtwood Hydro)	0.25
Other Construction Costs Analysis of Holtwood Steam shows $9.17 less .06 Salvage	Used	9.2
Sickness & Vacation 0.63% of Labor	Omitted in this case .	
Total Indirect Costs		15.25
OVERHEAD CHARGES		
Engineering & Superintendence		
Consulting Engineers' Fee & Exp.	(Same as Used for Holtwood Hydro)	0.5
Administrative Charges	(Same as Used for Holtwood Hydro)	0.5
Field Engineering & Expediting	(Same as Used for Holtwood Hydro)	2.5
Office Engineering & Drafting		7.0
Accounting & Purchasing (Actual Costs Holtwood Steam 0.73)	Used	0.75

Office Supplies and Expenses (Actual Holtwood Steam (Safe Harbor	 1.16) 1.394)		
Average	1.277	Used	1.25
Total Engineering & Superintendence			12.50
Preliminary Operating Expenses Actual Holtwood Steam 0.42%		Used	.40
Total Before Interest & Taxes			28.15
Taxes (Actual Holtwood Steam 0.10%) Interest (Actual Holtwood Steam 2.86%)		Used	3.00

From the above percentages, material and labor multipliers were determined as shown below:

Material Multiplier

1.03 (Interest & Taxes) x 1.2815 (Total before interest) = 1.3199

Labor Multiplier

1.088 (Overtime + Insurance) x 1.3199 (Material Multiplier) = 1.4361

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TRANSMISSION PLANT

Analyses were made of the actual original costs of the indirect and overhead charges on transmission lines and substations. From these analyses, the present day costs were determined largely on the basis of reproducing the transmission plant in a short period of time. The construction work would be handled by general contractors.

	Actual Original Cost Percent of Labor and Material		
	Pa.	Md.	Pa. & Md.
(a) *Transmission Lines Only* (Accounts 341, 344, 345, 346 & 349)			
Payroll Insurance	3.56	4.29	3.92
Temporary Construction Facilities	8.69	6.13	7.30
Engineering	16.88	11.16	13.76
Interest & Taxes During Construction	3.67	4.56	4.14
(b) *Substations Only*			
(Accounts 342 and 343)			
Payroll Insurance	6.45	2.03	5.09
Temporary Construction Facilities	3.38	2.36	3.10
Engineering	17.12	11.85	15.70
Interest & Taxes During Construction	3.36	2.53	3.17

Further analyses were made of the actual original costs of the Westport, Washington, Perryville and Riverside Transmission Lines which were constructed in 1931, 1932, 1934 and 1937 respectively. These analyses showed that temporary facilities costs ranged from 4.97% on the Riverside Line, (1937) to a maximum of 12.63% on the

Perryville Line (1934) with an average of 8.63% for the four lines. Construction Equipment from 0.08% to 2.76% with an average of 1.35%, Suspense Accounts from 3.80 to 9.23%, with an average of 6.74%. Camp Facilities costs were incurred or shown for only one line, the Riverside Line, and amounted to 0.63%. We have figured the Camp Facilities separately, and have used the percentages shown on the following pages.

TRANSMISSION LINES ONLY

	Pennsylvania (Accounts 341-345)			Maryland (Accounts 341-346-349)	
	Labor	Material		Labor	Material
Direct L & M (D)	1.000	1.000		1.000	1.000
Overtime Pay	.03428			.03428	
Construction Cost (C)	1.03428	1.000		1.03428	1.000
Insurance 6.15% of (C)	.0636082		7.54%	.0779847	
Camp 3.357% of (D)	.03357			.03357	
Construction Equipment 6.2% of (C)	.0641253	.062		.0641253	062
Field Cost (F)	1.1955835	1.062		1.209960	1.062
Contractors Fee & Expenses 6.5% of (F)	.0777129	.06903		.0786474	.06903
Taxes & Engineering 9.0% of (C)	.0930852	.09000		.0930852	.09000
Total (T)	1.3663816	1.22103		1.3816926	1.22103
Interest 3% of (T)	.0409914	.0366309		.0414508	.0366309
Total Multipliers	1.407373	1.2576609		1.4231434	1.2576609
Multipliers Used	1.40737	1.25766		1.42314	1.25766

TRANSMISSION LINES ONLY
INDIRECT COSTS AND GENERAL OVERHEADS

	Pennsylvania (Accounts 344-346-349)			Maryland (Accounts 344-345)	
	Labor	Material		Labor	Material
Direct L & M (D)	1.000	1.000		1.000	1.000
Overtime Pay	.03428			.03428	
Construction Cost (C)	1.03428	1.000		1.03428	1.000
Insurance 6.15% of (C)	.0636082		7.54%	.0779847	
Camp 3.357% of (C)	.0347208			0347208	
Construction Equipment 6.2% of (C)	.0641253	.062		.0641253	062
Field Cost (F)	1.1967343	1.062		1.2111108	1.062
Contractors Fee & Expenses 6.5% of (F)	.0777877	.069030		.0787222	.06903
Engineering & Taxes 9.0% of (C)	.0930852	.090000		.0930852	.09000
Total (T)	1.3676072	1.22103		1.3829182	1.22103
Interest 3% of (T)	.0410282	.0366309		.0414875	.0366309
Total Multipliers	1.4086354	1.2576609		1.4244057	1.2576609
Multipliers Used	1.40864	1.25766		1.42441	1.25766

SUBSTATIONS ONLY
(ACCOUNTS 342 & 343)

	Pennsylvania			Maryland	
	Labor	Material		Labor	Material
Direct L & M	1.000	1.000		1.000	1.000
Overtime Pay 3.428%	.03428			.03428	
Construction Cost (C)	1.03428	1.000		1.03428	1.000
Insurance 6% of (C)	.0620568		6.37%	.0658836	
Construction Equipment & Temporary Facilities 3%	.0310284	.030		.0310284	.03
Field Cost (F)	1.1273652	1.030		1.1311920	1.030
Contractors Fee and Expenses 6.5% of (F)	.0732787	.06695		.0735275	.06695
Taxes and Engineering 13.5% of (C)	.1396278	.13500		.1396278	.13500
Total (T)	1.3402717	1.23195		1.3443473	1.23195
Interest 3%	.0402081	.0369585		.0433042	.0369585
Total Multipliers	1.3804798	1.2689085		1.3846777	1.2689085
Multipliers Used	1.38048	1.26891		1.38468	1.26891

GENERAL PLANT

In order to determine the approximate direct and indirect costs and overhead charges for the General Plant property analyses were made of the actual original costs incurred for each primary account by the Pennsylvania and Maryland Companies.

For the Pennsylvania Company, the result of the analyses are shown below:

		Original Cost Percentages of Labor & Material			Cost of Reproduction Percentages Used by Us		
Acct. No.	P/R	Eng.	Temp. Facil.	Taxes & Interest	Eng.	Temp. Facil.	Taxes & Interest
371	4.12	18.75	6.5	2.36	11.5	6.5	3.0
372	4.31	11.00	0.117	0.745	11.0	0.117	0.745
373	-	0.54	-	-	0.54	-	-
374	6.2	20.40	6.36	-	11.5	6.36	-
375	6.1	18.00	6.32	0.17	11.5	6.32	0.17
376	7.15	11.10	0.555	7.80	11.1	0.555	2.80
377	3.56	7.85	1.07	1.04	7.85	1.07	1.04
378	4.81	24.00	3.45	3.26	11.5	3.45	3.00
379	6.18	13.75	4.03	-	11.5	4.03	

Similar analyses of the actual original costs of the Maryland Company were made and the results and percentages used by us are as follows:

		Original Cost Percentages of Labor & Material			Cost of Reproduction Percentages Used by Us		
Acct. No.	P/R	Eng.	Temp. Facil.	Taxes & Interest	Eng.	Temp. Facil.	Taxes & Interest
371	1.26	17.2	0.33	0.45	11.5	0.33	0.45
372	-	5.75	0.43	2.6	5.75	0.43	2.6
373	-	-	-	-	-	-	-
374	-	12.4	-	-	11.5	-	-
375	-	15.5	-	-	11.5	-	-
376	-	87.5	-	-	11.5	-	-
377	-	9.22	-	0.375	9.22	-	0.375
378	7.28	21.5	1.75	0.66	11.5	1.75	0.66
379	-	-	-	-	-	-	

From the above analyses and percentages adopted, material and labor multipliers were developed and applied separately for each primary account of the Pennsylvania and Maryland General Plant properties. The summary of multipliers used is presented here:

Acct. No.	Pennsylvania Multipliers Material	Pennsylvania Multipliers Labor	Maryland Multipliers Material	Maryland Multipliers Labor
371	1.2154	1.3275	1.1233	1.2358
372	1.145	1.2505	1.0894	1.1985
373	1.005	No Labor	None on Labor or Material	
374	1.1786	1.2873	1.1150	1.2267
375	1.1802	1.2890	1.1150	1.2267
376	1.1478	1.2536	1.1150	1.2267
377	1.1328	1.2372	1.0963	1.2061
378	1.1840	1.2932	1.13997	1.2541
379	1.1553	1.2618	None on Labor or Material	

SUMMARY

For the purpose of providing comparative data on 1945 Costs of Reproduction with the actual original costs year by year as they were incurred in the surviving property, the labor and material dollars as of December 31, 1945 were adjusted to give effect to the present day indirect costs and overhead charges, and are presented opposite the total cost of surviving property, by primary accounts for each year. That is up to the end of the year 1944. In making the adjustment for the gross additions and retirements made in the year 1945, the larger retirements were adjusted to the 1945 cost of the dollars as of the year of installation. The 1945 gross additions were then added at actual cost.

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Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31. 1945
BASED UPON TREND FACTORS

GRAND SUMMARY - BOTH COMPANIES

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
SUMMARY PENNSYLVANIA WATER & POWER COMPANY		
Intangible Plant	$ 790,803	$ 790,803
Production Plant		
(a) Steam	4,594,803	6,836,425
(b) Hydraulic	18,481,916	34.876,833
Transmission Plant	6,175,506	9,486,600
General Plant	752,574	1,000,041
Total Electric Plant in Service Pennsylvania Water & Power Co.	$30,795,602	$52,990,702
SUMMARY SUSQUEHANNA TRANSMISSION COMPANY OF MARYLAND		
Intangible Plant	$ 9,000	$ 9,000
Transmission Plant	5,565,553	9,340,003
General Plant	44,077	70,672
Total Electric Plant in Service Susquehanna Transmission Company of Maryland	$ 5,618,630	$ 9,419,675
GRAND TOTAL - BOTH COMPANIES	$36,414,232	$62,410.377

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

SUMMARY

Account No.	ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
	INTANGIBLE PLANT		
301	Organization	$ 668,530	$ 668,530*
302	Franchises and Consents	64,005	64,005*
303	Miscellaneous Intangible Plant	58,268	58,268*
	Total Intangible Plant	$ 790,803	$ 790,803*
	PRODUCTION PLANT		
	(A) Steam		
310	Land and Land Rights	$ 2,000	$ 2,000*
311	Structures and Improvements	1,214,710	2,067,055
312	Boiler Plant Equipment	1,866,969	2,580,059
314	Turbo-Generator Units	806,226	1,221,425
315	Accessory Electric Equipment	401,464	586,152
316	Miscellaneous Power Plant Equipment	303,434	379,734
	Total Steam	$ 4,594,803	$ 6,836,425
	(B) Hydraulic		
320	Land and Land Rights		
	(a) Excluding Railroad Relocation	$ 2,749,982	$ 2,749,982*
	(b) Railroad Relocation Only	1,498,434	2.542.446
321	Structures and Improvements	4,958,609	9 409 241
322	Reservoirs, Dams and Waterways	4,020,318	7,675,794
323	Hydraulic Turbines and Generators	3,458,957	9,030,608
324	Accessory Electric Equipment	1,529,177	2,977,842
325	Miscellaneous Power Plant Equipment	194,522	338,289
326	Roads, Railroads and Bridges	71,917	152,631
	Total Hydraulic	$ 18,481,916	$ 34,876.833
	TRANSMISSION PLANT		
340	Land and Land Rights	$ 807,107	$ 1,498,575
341	Clearing Land and Rights-of-Way	116,267	235,282
342	Structures and Improvements	330,844	558,466
343	Station Equipment	2,781,224	3,890,451
344	Towers and Fixtures	1,102,909	1,964,770
345	Poles and Fixtures	10,892	14,673
346	Overhead Conductors and Devices	989,514	1,266,021
349	Roads and Trails	36,749	58,362
	Total Transmission Plant	$ 6,175,506	$ 9,486,600

* Original Cost - Not Trended

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

SUMMARY (Cont'd.)

Account No.	ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
	GENERAL PLANT		
371	Structures and Improvements	$ 248,014	$ 382,346
372	Office Furniture and Equipment	115,090	138,922
373	Transportation Equipment	56,665	65,278
374	Stores Equipment	13,959	15,133
375	Shop Equipment	31,761	35,117
376	Laboratory Equipment	49,187	55,860
377	Tools and Work Equipment	118,635	139,224
378	Communication Equipment	104,969	150,501
379	Miscellaneous Equipment	17,668	21,034
393	Donations in Aid of Construction	(3,374)	(3,374)
	Total General Plant	$ 752,574	$ 1,000,041
	SUMMARY OF TOTALS		
	Intangible Plant	$ 790,803	$ 790,803
	Production Plant		
	(a) Steam	4,594,803	6,836,425
	(b) Hydraulic	18,481,916	34,876,833
	Transmission Plant	6,175,506	9,486,600
	General Plant	752,574	1,000,041
	Total Electric Plant in Service	$30,795,602	$ 52,990,702

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS
SUMMARY (Cont'd.)

Account No.	ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
	INTANGIBLE PLANT		
301	Organization	$ 3,332	$ 3,332
303	Miscellaneous Intangible Plant	5,668	5,668
	Total Intangible Plant	$ 9,000	$ 9,000
	TRANSMISSION PLANT		
340	Land and Land Rights	1,909,136	$ 2,528,645
341	Clearing Land and Rights-of-Way	136,614	317,848
342	Structures and Improvements	364,941	886,932
343	Station Equipment	716,071	1,457,874
344	Towers and Fixtures	1,171,897	2,463,735
345	Poles and Fixtures	491	937
346	Overhead Conductors and Devices	1,237,115	1,620,452
349	Roads and Trails	29,288	63,580
	Total Transmission Plant	$5,565,553	$ 9,340,003
	GENERAL PLANT		
371	Structures and Improvements	$ 6,944	$ 12,208
372	Office Furniture and Equipment	4,216	5,794
373	Transportation Equipment	(1,074)	(1,033)
374	Stores Equipment	1,257	2,203
375	Shop Equipment	927	1,371
376	Laboratory Equipment	241	173
377	Tools and Work Equipment	6,919	8,622
378	Communication Equipment	40,600	57,287
379	Miscellaneous Equipment	0	0
393	Donations in Aid of Construction	(15,953)	(15,953)
	Total General Plant	$ 44,077	$ 70,672
	SUMMARY		
	INTANGIBLE PLANT	$ 9,000	$ 9,000
	TRANSMISSION PLANT	5,565,553	9,340,003
	GENERAL PLANT	44,077	70,672
	TOTAL ELECTRIC PLANT IN SERVICE SUSQUEHANNA TRANSMISSION COMPANY OF MARYLAND	$5,618,630	$ 9,419,675

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

INTANGIBLE PLANT

ACCOUNT NO. 301 - ORGANIZATION

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Total Organization	$ 668,530	$ 668,530*

* Original Cost - Not Trended

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

INTANGIBLE PLANT

ACCOUNT NO. 302 - FRANCHISES AND CONSENTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Total Franchises and Consents	$ 64,005	$ 64,005*

*Original Cost - Not Trended

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

INTANGIBLE PLANT

ACCOUNT NO. 303 - MISCELLANEOUS INTANGIBLE PLANT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Total Miscellaneous Intangible Plant	$ 58,268	$ 58,268*

*Original Cost - Not trended

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31. 1945
BASED UPON TREND FACTORS

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HOLTWOOD STEAM PLANT

ACCOUNT NO. 310 - LAND AND LAND RIGHTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31. 1945
Year		
1939	$ 2,000	$ 2,000

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

HOLTWOOD STEAM PLANT

ACCOUNT NO. 311 - STRUCTURES AND IMPROVEMENTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1924	$ 303,742	$ 507,803
1925	660,364	1,151,799
26	20,804	35,269
27	9,974	17,555
28	4,640	9,620
29	10,260	17,435
1930	43,520	$ 97,671
31	10,886	23,112
32	848	2,702
33	836	1,526
34	12,758	27,111
1935	1,950	3,351
36	4,302	8,412
37	13,403	19,472
38	3,193	4,400
39	442	805
1940	432	459
41	6,448	8,214
42	98,095	126,142
43	3,127	3,899
44	2,092	2,545
1945 Net Additions	2,594	(2,247)
TOTAL	$ 1,214,710	$ 2,067,055

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

HOLTWOOD STEAM PLANT

ACCOUNT NO. 312 - BOILER PLANT EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1924	$ 325,234	$ 413,248
1925	633,069	932,121
26	21,818	30,726
27	11,814	16,888
28	55,469	110,091
29	259	432
1930	131,036	232,236
31	23,897	49,750
32	5,901	13,008
33	7,314	15,314
34	40,148	66,661
1935	5,941	9,632
36	5,543	10,264
37	40,354	53,918
38	8,291	10,296
39	15,562	17,798
1940	59,947	74,798
41	40,451	49,399
42	412,871	453,200
43	4,307	5,359
44	10,928	12,514
1945 Net Additions	6,815	2,349
TOTAL	$ 1,866,969	$ 2,580,059

PENNSYLVANIA WATER & POWER CO. -11-
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS
22202

HOLTWOOD STEAM PLANT

ACCOUNT NO. 314 - TURBO-GENERATOR UNITS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1924	$ 238,418	$ 358,389
1925	509,403	784,091
26	7,817	12,024
27	8,712	13,375
28	32	12
29	1,119	2,178
1930	1,383	2,547
31	3,444	6,519
32	25	41
33	393	1,076
34	29	-
1935	33	40
36	1,540	2,977
37	-	-
38	1,145	1,653
39	-	-
1940	-	-
41	11,574	11,848
42	15,603	18,430
43	4,475	4,939
44	1,081	1,286
1945 Net Additions	None	None
TOTAL	$ 806,226	$ 1,221,425

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

-12-

HOLTWOOD STEAM PLANT

ACCOUNT NO. 315 - ACCESSORY ELECTRICAL EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1924	$ 75,590	$ 116,950
1925	163,853	240,539
26	3,893	5,750
27	2,706	4,260
28	4,170	8,299
29	1,898	3,038
1930	30,445	58,748
31	4,158	7 349
32	3,087	5,220
33	122	223
34	6,927	11,127
1935	955	1,590
36	67	84
37	5,789	7,766
38	2,797	3,901
39	1,284	1,718
1940	7,549	4,718
41	8,273	12,461
42	61,537	71,235
43	651	4,814
44	15,470	16,119
1945 Net Additions	243	243
TOTAL	$ 401,464	$ 586,152

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

HOLTWOOD STEAM PLANT

ACCOUNT NO. 316 - MISCELLANEOUS POWER PLANT EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1924	$ 14,610	$ 20,714
1925	30,332	43,989
26	966	1,305
27	523	732
28	3,196	6,221
29	-	
1930	687	797
31	1,638	3,489
32	9	16
33	1,842	3,840
34	31,621	57,810
1935	13,644	25,971
36	3,346	6,074
37	28,841	39,234
38	15,428	17,334
39	42,362	50,028
1940	8,458	10,755
41	28,583	38,069
42	17,802	18,586
43	18,238	22,923
44	22,175	26,130
1945 Net Additions	19,133	(14,283)
TOTAL	$ 303,434	$ 379.734

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31. 1945
BASED UPON TREND FACTORS

HYDRAULIC PLANT

ACCOUNT NO. 320 - LAND EXCLUDING R.R. RELOCATION

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Land + Net Additions	$ 4,248,416	$ -
Less R.R. Relocation + Net Additions	1,498,434	-
Land Excluding R.R. Relocation	$ 2,749,982	$ 2,749,982*

* Original Cost - Not Trended

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

HOLTWOOD HYDRO PLANT

ACCOUNT NO. 320 - R.R. RELOCATION ONLY

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 1,698,309	$ 2,742,189
1913		
1914	125	257
1945 Net Additions	None	None
TOTAL	$ 1,698,434	$ 2,742,446
Credit Payment from R.R.	200,000	200,000
NET TOTAL	$ 1,498,434	$ 2,542,446

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

HOLTWOOD HYDRO PLANT

ACCOUNT NO. 321 - STRUCTURES AND IMPROVEMENTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 2,284,729	$ 4,514,376
13	148,910	514,627
14	147,459	358,670
1915	-	
16	-	-
17	18,142	29,889
18	2,293	6,406
19	56,777	94,442
1920	-	-
21	3,662	5,973
22	6,181	10,297
23	668,589	1,772,791
24	622,380	469,388
1925	168,070	243,936
26	273,930	451,171
27	84,777	166,490
28	67,150	113,781
29	37,076	76,103
1930	26,821	54,028
31	35,232	58,173
32	16,414	41,225
33	31,069	64,491
34	27,550	50,053
1935	9,356	13,710
36	18,982	27,906
37	58,603	85,439
38	54,209	68,094
39	36,761	44,343
1940	5,431	12,093
41	34,658	42,965
42	11,667	15,159
43	2,624	4,083
44	264	296
1945 Net Additions	(1,157)	(1,157)
TOTAL	$ 4,958,609	$ 9 409 241

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

HOLTWOOD HYDRO PLANT

ACCOUNT NO. 322 - RESERVOIRS DAMS & WATERWAYS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 3,052,665	$ 6,545,213
13	62,980	71,179
14	9,226	13,630
1915-19	200,847	444,506
1920-25	11,621	10,789
1926-29	159,906	109,719
1930-33	39,641	33,516
1934-41	483,432	447,242
1942-44	-	-
1945 Net Additions	-	-
TOTAL	$ 4,020 318	$ 7,675,794

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

HOLTWOOD HYDRO

ACCOUNT NO. 323 - HYDRAULIC TURBINES AND GENERATORS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 1,693,081	$ 4,805 767
13	343 163	1,036,080
14	252,344	751,936
1915	637	1 624
16	9,964	25,222
17	4,620	8,282
18	3,111	10 333
19	6,239	14 657
1920	6,232	11 540
21	1 775	6 068
22	4,819	14 080
23	525,085	1,170 989
24	361,796	727 097
1925	2 726	6,940
26	5,712	13,872
27	10 572	27,438
28	12,330	40 884
29	8,499	24 530
1930	7,327	19 021
31	4 600	11,459
32	11,722	31,528
33	10,107	21 219
34	16,634	36 259
1935	27,687	44 878
36	55,687	74,593
37	20,905	29 310
38	15 692	21,035
39	21,956	26 524
1940	504	644
41	4 697	5 943
42	2,572	3 223
43	3,077	3 961
44	3 085	3 672
1945 Net Additions	None	None
TOTAL	$ 3,458,957	$ 9,030 608

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945

BASED UPON TREND FACTORS

HOLTWOOD HYDRO PLANT

ACCOUNT NO. 324 - ACCESSORY ELECTRIC EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 306,560	$ 795,872
13	115,095	181,526
14	34,279	87,728
1915	818	1,031
16	2,259	7,397
17	3,505	6,280
18	6,207	27,566
19	10,809	24,564
1920	8,353	19,416
21	13,840	31,529
22	23,720	20,514
23	235,275	471,186
24	139,349	257,524
1925	138,435	241,312
26	12,481	20,938
27	17,325	34,062
28	18,982	38,834
29	21,850	48,223
1930	21,742	44,874
31	73,647	142,284
32	8,153	24,031
33	51,249	114,507
34	11,883	14,912
1935	20,731	27,361
36	23,202	37,846
37	35,284	48,855
38	57,077	67,301
39	4,713	6,084
1940	20,102	23,885
41	53,005	64,233
42	19,131	22,821
43	13,618	15,837
44	3,406	4,417
1945 Net Additions	3,091	3,092
TOTAL	$ 1,529,178	$ 2,977,842

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

HOLTWOOD HYDRO PLANT

ACCOUNT NO. 325 - MISCELLANEOUS POWER PLANT EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 63,900	$ 128,918
13	4,763	12,462
14	2,724	7,779
1915	12	23
16	-	-
17	-	-
18	118	141
19	419	328
1920	74	166
21	190	418
22	1,309	2,983
23	7,279	12,235
24	6,415	10,157
1925	14,083	20,002
26	4,025	8,855
27	1,511	2,640
28	9,782	17,386
29	1,007	1,931
1930	13,205	21,212
31	912	1,862
32	3,162	9,844
33	1,068	2,454
34	1,390	1,221
1935	3,751	6,538
36	69	101
37	12,198	14,821
38	9,636	15,666
39	10,751	12,657
1940	211	277
41	528	742
42	1,146	1,366
43	5,406	7,570
44	13,503	15,559
1945 Net Additions	(25)	(25)
TOTAL	$ 194,522	$ 338,289

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

HOLTWOOD HYDRO PLANT

ACCOUNT NO. 326 - ROADS, RAILROADS, AND BRIDGES

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 48,030	$ 111,674
1924	88	277
1929	17,033	32,825
1931	267	-
1936	6,499	7,855
1945 Net Additions	None	None
TOTAL	$ 71,917	$ 152,631

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 340 - LAND AND LAND RIGHTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Total Land and Land Rights as of December 31, 1944	$ 809,241	
1945 Net Additions	(2,134)	
TOTAL	$ 807,107	$ 1,498,575

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 341 - CLEARING LAND AND RIGHTS-OF-WAY

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 2,697	$ 10,781
13	1,478	5,048
14	485	1,958
1915	197	-
17	7	20
1923	40,802	63,539
24	9,845	19,470
28	216	-
1931	13,019	33,961
32	1,762	5,777
33	12	-
34	15,444	43,187
1935	-	-
36	194	-
37	22,266	39,956
38	1,657	2,913
39	-	-
1940	1,557	2,175
41	4,569	6,421
42	60	76
1945 Net Additions	None	None
TOTAL	$ 116,267	$ 235,282

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 342 - STRUCTURES AND IMPROVEMENTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 604	$ 1,220
13	92	230
14	142	415
1915	-	-
16	-	-
17	2,162	4,431
18	1,853	3,258
19	-	-
1920	-	-
21	1	1
22	362	649
23	71,860	108,788
24	6,120	8,812
1925	1,698	3,529
26	2	3
27	201	263
28	29	43
29	595	1,024
1930	165	264
31	19,897	33,214
32	1,001	3,236
33	7,993	15,254
34	106,673	217,988
1935	8,754	13,241
36	5,773	9,669
37	43,010	65,023
38	38,519	51,230
39	1,186	1,669
1940	3,312	4,356
41	1,537	2,142
42	7,421	8,632
43	-	-
44	-	-
1945 Net Additions	(118)	(118)
TOTAL	$ 330,844	$ 558,466

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 343 - STATION EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 314,325	$ 437,781
13	-	-
14	-	-
1915	910	11
16	527	946
17	28,869	38,954
18	3,327	6,675
19	2,107	3,565
1920	1,106	2,850
21	183	113
22	3,263	7,789
23	205,790	335,190
24	29,247	45,662
1925	88,942	121,095
26	4,142	5,820
27	97,699	141,869
28	5,998	9,688
29	93,174	128,233
1930	37,814	57,011
31	331,950	516,931
32	36,861	90,728
33	5,503	5,958
34	738,492	993,800
1935	45,886	66,135
36	44,131	58,693
37	249,833	327,931
38	231,503	300,514
39	9,176	9,997
1940	70,162	64,072
41	71,671	82,361
42	10,269	10,702
43	8,661	9,664
44	4,122	4,778
1945 Net Additions	5,581	4,935
TOTAL	$ 2,781,224	$ 3,890,451

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945 -26-
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 344 - TOWERS AND FIXTURES

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 59,910	$ 164,258
13	15,534	39,613
14	19,957	61,110
1915	-	-
16	-	-
17	-	-
18	-	-
19	-	-
1920	63	104
21	84	109
22	34	37
23	362,726	508,084
24	76,326	119,034
1925	-	-
26	1,555	-
27	199	462
28	3,903	251
29	-	-
1930	-	-
31	135,291	274,580
32	21,075	44,491
33	99	-
34	213,918	436,940
1935	1,740	3,482
36	47,243	66,264
37	114,689	201,033
38	23,530	37,747
39	-	
1940	3,882	5,660
41	-	-
42	1,731	1,995
43	-	-
44	603	700
1945 Net Additions	(1,183)	(1,184)
TOTAL	$ 1,102,909	$ 1,964,770

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 345 - POLES AND FIXTURES

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ -	$ -
1922	7	-
1932	1,121	1,707
37	35	62
38	334	634
1941	7,319	9,799
42	2,076	2,471
1945 Net Additions	None	None
TOTAL	$ 10,892	$ 14,673

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 346 - OVERHEAD CONDUCTORS AND DEVICES

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 27,870	$ 37,828
13	4,852	7,901
14	16,508	26,154
1915	-	
16	303	705
17	21,699	20,217
18	114	78
19	-	-
1920	-	-
21	-	
22	-	
23	276,344	294,235
24	64,230	75,379
1925	2,924	5,181
26	2,516	3,045
27	291	594
28	15,200	21,790
29	864	1,344
1930	5,269	7,260
31	136,079	183,483
32	13,164	25,814
33	1,925	1,202
34	160,087	248,969
1935	1,927	3,146
36	62,556	92,463
37	124,578	150,405
38	35,326	42,003
39	359	543
1940	7,501	8,694
41	-	-
42	7,302	7,861
43	-	
44	-	
1945 Net Additions	(274)	(273)
TOTAL	$ 989,514	$ 1,266,021

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 349 - ROADS AND TRAILS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 1,439	$ 4,979
13	55	236
14	107	327
1915	39	19
16	199	701
17	-	-
18	-	-
19	43	66
1920	-	-
21	-	-
22	81	-
23	112	106
24	255	498
1925	-	-
26	72	48
27	-	-
28	41	60
29	-	-
1930	-	-
31	2,632	5,365
32	7,749	21,114
33	3	-
34	10,289	8,231
1935	-	-
36	165	246
37	1,620	2,528
38	426	819
39	-	-
1940	-	-
41	-	-
42	1,765	2,167
43	7,908	8,908
44	2,045	2,240
1945 Net Additions	(296)	(296)
TOTAL	$ 36,749	$ 58,362

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31. 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 371 - STRUCTURES AND IMPROVEMENTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31. 1945
Year		
1912 and prior years	$ 4,056	$ 10,434
1918	863	-
1920	1	-
21	46	-
22	-	-
23	2	-
24	494	667
1925	1,517	1,235
26	31	39
27	954	21
28	133,507	230,105
29	27,295	47,471
1930	2,396	-
31	1,855	2,647
32	-	
33	-	-
34	-	
1935	1,058	1,647
36	598	1,008
37	14,625	20,637
38	668	914
39	4,979	5,293
1940	347	437
41	14,489	17,022
42	36,473	40,689
43	1,272	1,410
44	1,330	1,512
1945 Net Additions	(842)	(842)
TOTAL	$ 248,014	$ 382,346

PENNSYLVANIA WATER & POWER CO.

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 372 - OFFICE FURNITURE AND EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 2,654	$ 4,095
13	1,008	2,163
14	761	1,428
1915	183	239
16	400	638
17	793	1,129
18	116	129
19	981	996
1920	1,217	907
21	572	512
22	1,034	1,315
23	2,964	2,973
24	3,070	3,184
1925	1,511	1,657
26	542	650
27	2,619	3,301
28	4,942	5,814
29	4,862	5,892
1930	21,754	27,113
31	2,377	3,511
32	2,714	4,214
33	793	1,230
34	3,607	4,781
1935	3,082	4,658
36	3,327	4,866
37	10,109	12,160
38	8,030	8,773
39	6,247	6,935
1940	10,749	11,773
41	7,867	7,960
42	2,836	2,591
43	75	71
44	622	592
1945 Net Additions	672	672
TOTAL	$ 115,090	$ 138,922

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 373 - TRANSPORTATION EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1933	$ 4,446	$ 6,053
34	2,707	3,500
1935	341	459
36	2,277	3,099
37	6,479	8,223
38	2,190	2,265
39	12,335	14,987
1940	5,028	5,897
41	17,128	18,780
42	697	701
43	-	-
44	-	-
1945 Net Additions	3,037	1,314
TOTAL	$ 56,665	$ 65,278

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 374 - STORES EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1928	$ 2,638	$ 2,721
29	6,174	7,227
1935	230	246
39	31	31
1940	-	-
41	849	794
42	3,987	4,064
1945 Net Additions	50	50
TOTAL	$ 13,959	$ 15,133

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 375 - SHOP EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 1,946	$ 2,688
13	-	-
14	89	114
1918	4	3
19	-	-
1920	19	16
1926	77	95
27	403	477
28	1,636	2,567
29	3,172	3,804
1930	42	57
31	3,583	5,272
32	20	31
33	-	-
34	-	-
1935	159	167
36	6	8
37	139	235
38	115	164
39	7,336	6,819
1940	10,476	10,066
41	999	1,002
42	261	262
43	196	186
44	699	700
1945 Net Additions	384	384
TOTAL	$ 31,761	$ 35,117

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 376 - LABORATORY EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 5,078	$ 5,751
13	831	925
14	3,003	4,096
1915	237	295
16	70	148
17	453	356
18	943	712
19	748	677
1920	828	981
21	432	445
22	232	263
23	2,456	2,519
24	3,439	3,620
1925	2,493	3,767
26	251	293
27	178	213
28	3,164	3 718
29	2,888	3,038
1930	3,428	4,336
31	684	963
32		
33	100	142
34	396	522
1935	1,931	2,117
36	1,791	2,492
37	513	538
38	2,089	2,095
39	3,197	3,650
1940	2,225	2,457
41	2,562	2,268
42		
43		
44	1,077	994
1945 Net Additions	1,470	1,469
TOTAL	$ 49,187	$ 55 860

Exhibit No. 31

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 377 - TOOLS AND WORK EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 22,299	$ 29 047
13	6,113	8,011
14	2,016	2,797
1915	103	143
16	90	93
17	116	92
18	206	181
19	1,115	1,857
1920	733	952
21	388	395
22	262	304
23	5,799	5,395
24	2,979	2,807
1925	7,614	7,762
26	326	351
27	10,472	12,730
28	9,726	10,857
29	5,969	7,090
1930	14,576	18,411
31	990	1,342
32	10	15
33	170	254
34	1,718	2,315
1935	1,024	1,348
36	8,408	11,146
37	1,923	1,928
38	1,744	1,836
39	1,217	1,176
1940	4,138	3,733
41	4,521	4,151
42	2,136	1,845
43	231	139
44	-	-
1945 Net Additions	(497)	(1,279)
TOTAL	$ 118,635	$ 139,224

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 378 - COMMUNICATION EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 10,440	$ 18,350
13	1,725	3,867
14	1,405	3,154
1915	21	33
16	218	235
17	30	19
18	762	1,900
19	359	487
1920	7,018	7,080
21	169	392
22	268	445
23	10,758	17,698
24	3,227	5,623
1925	9,103	12,016
26	589	949
27	668	347
28	4,118	6,542
29	2,237	3,408
1930	1,147	2,140
31	1,153	2,380
32	2,974	5,428
33	506	1,234
34	4,001	5,762
1935	3,064	4,501
36	12,326	15,563
37	5,299	6,712
38	2,094	2,636
39	728	885
1940	7,259	8,408
41	1,566	1,778
42	4,082	4,467
43	5,724	6,123
44	272	280
1945 Net Additions	(341)	(341)
TOTAL	$ 104,969	$ 150,501

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 379 - MISCELLANEOUS EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 21	$ -
13	-	-
14	-	-
1915	430	941
1920	37	-
21	-	-
22	-	-
23	-	-
24	1,814	1,567
1925	1,148	142
26	12,036	16,322
27	145	151
28	-	-
29	260	338
1937	172	241
38	257	241
39	319	352
1940	-	-
41	-	-
42	1,897	1,636
43	308	291
44	168	156
1945 Net Additions	(1,344)	(1,344)
TOTAL	$ 17,668	$ 21,034

PENNSYLVANIA WATER & POWER CO.
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 393 - DONATIONS IN AID OF CONSTRUCTION

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1937	$ (3,374)	$ (3,374)
TOTAL	$ (3,374)	$ (3,374)

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

INTANGIBLE PLANT

ACCOUNT NO. 301 - ORGANIZATION

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Total Organization	$ 3,332	$ 3,332*

*Original Cost - Not Trended

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

INTANGIBLE PLANT

ACCOUNT NO. 303 - MISCELLANEOUS INTANGIBLE

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Total Miscellaneous Intangible Plant	$ 5,668	$ 5,668*

*Original Cost - Not Trended

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 340 - LAND AND LAND RIGHTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Total Land and Land Rights	$ 1,909,136	$ 2,528,645

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 341 - CLEARING LAND AND RIGHTS-OF-WAY

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 6,699	$ 28,610
13	1,343	6.048
14	1,472	5,946
1915	-	-
16	-	-
17	30	88
18	-	-
19	-	-
1920	46	-
21	-	-
22	-	-
23	-	-
24	4,738	8,355
1925	75	212
26	-	-
27	-	-
28	-	-
29	-	-
1930	-	-
31	43,098	106,985
32	16,978	44,609
33	3	10
34	18,525	39,199
1935	-	-
36	78	-
37	29,875	56,465
38	3,281	6,209
39	7,290	10,755
1940	3,083	4,357
41	-	-
42	-	-
43	-	-
44	-	-
1945 Net Additions	None	None
TOTAL	$ 136,614	$ 317,848

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 342 - STRUCTURES AND IMPROVEMENTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 123,313	$ 432,816
13	2,612	9,502
14	29,708	78,701
1915	90	358
16	471	1,521
17	11,370	27,060
18	24,295	66,069
19	3,364	5,710
1920	4,339	8,019
21	845	1,505
22	901	1,945
23	6,289	13,034
24	899	917
1925	1,495	2,544
26	876	1,348
27	9,381	13,616
28	1,445	2,369
29	4,095	5,952
1930	7,872	12,208
31	29,871	51,528
32	23,001	40,130
33	7,610	14,133
34	5,090	9,742
1935	899	1,477
36	205	262
37	19,759	29,053
38	24,281	32,410
39	2,100	2,801
1940	112	170
41	3,246	3,793
42	11,429	12,548
43	312	325
44	-	-
1945 Net Additions	3,366	3,366
TOTAL	$ 364,941	$ 886,932

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 343 - STATION EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 218,789	$ 540,447
13	38,157	91,116
14	71,030	164,489
1915	1,689	3,183
16	7,689	15,240
17	24,234	59,486
18	37,561	88,804
19	5,674	12,145
1920	11,981	26,855
21	15,202	26,944
22	18,991	46,787
23	29,808	61,779
24	13,210	20,149
1925	10,580	19,480
26	11,976	21,237
27	765	1,373
28	562	226
29	58,192	87,463
1930	2,910	2,407
31	12,067	21,738
32	53,092	60,336
33	879	1,655
34	18,716	25,468
1935	1,701	1,540
36	585	667
37	4,058	5,281
38	23,354	28,958
39	894	1,141
1940	2,007	2,368
41	3,921	4,054
42	12,160	14,387
43	2,940	3,132
44	-	
1945 Net Additions	697	(2,461)
TOTAL	$ 716,071	$ 1,457,874

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 344 - TOWERS AND FIXTURES

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912 and prior years	$ 130,081	$ 374,937
13	12,428	35,350
14	83,611	263,401
1915	-	
16	15	25
17	566	923
18	-	-
19	1	-
1920	216	359
21	292	387
22	83	160
23	53	86
24	111,017	169,161
1925	8,800	15,256
26	-	
27	217	397
28	-	-
29	-	
1930	-	
31	238,359	514,495
32	69,797	148,041
33	4,963	11,594
34	157,009	326,022
1935	292	667
36	-	
37	290,548	506,073
38	32,932	54,899
39	16,470	24,357
1940	855	1,213
41	7,640	9,785
42	3,095	3,562
43	220	249
44	-	-
1945 Net Additions	2,336	2,336
TOTAL	$ 1,171,896	$ 2,463,735

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO. 345 - POLES AND FIXTURES

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ -	$
1938	491	937
1945 Net Additions	-	
TOTAL	$ 491	$ 937

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

-48

TRANSMISSION PLANT

ACCOUNT NO. 346 - OVERHEAD CONDUCTORS AND DEVICES

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 110,706	$ 153,558
13	5,582	14,408
14	58,474	93,192
1915	-	-
16	1,303	3,035
17	86,292	79,891
18	686	1,672
19	191	-
1920	-	-
21	134	193
22	-	-
23	-	-
24	41,145	48,105
1925	1,400	1,346
26	1,007	1,147
27	-	-
28	111	102
29	5,053	2,504
1930	4,673	6,459
31	345,152	452,413
32	94,272	135,966
33	972	1,722
34	115,023	182,133
1935	1,101	1,826
36	7,617	12,134
37	246,096	304,704
38	12,425	16,550
39	23,327	27,389
1940	15,233	18,548
41	15,978	17,285
42	17,150	18,103
43	547	602
44	-	-
1945 Net Additions	25,465	25,465
TOTAL	$ 1,237,115	$ 1,620,452

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

TRANSMISSION PLANT

ACCOUNT NO 349 - ROADS AND TRAILS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 5.649	$ 20 904
13	257	1,003
14	252	922
1915	178	423
16	-	-
17	-	-
18	72	43
19	124	223
1920	1,786	2,907
21	1,907	3,066
22	57	74
23	264	470
24	240	377
1925	-	-
26	-	-
27	-	-
28	-	-
29	165	279
1930	-	-
31	5 388	9 629
32	5.256	11,724
33	-	-
34	3 266	4 885
1935	-	-
36	594	1 224
37	4 167	5 761
38	-	-
39	-	-
1940	-	-
41	-	-
42	-	-
43	-	-
44	-	-
1945 Net Additions	(334)	(334)
TOTAL	$ 29.288	$ 63,580

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945

BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 371 - STRUCTURES AND IMPROVEMENTS

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 178	$ 446
13	-	-
14	48	153
1915	-	-
16	-	-
17	-	-
18	20	-
19	814	1,132
1920	199	-
21	13	15
22	93	189
23	1,531	2,962
24	-	-
1925	-	-
26	-	-
27	692	1,376
28	64	72
29	-	-
1930	-	-
31	995	2,041
32	497	1,033
33	243	347
34	-	-
1935	1,014	1,880
36	-	-
37	-	-
38	-	-
39	-	-
1940	-	-
41	322	341
42	-	-
43	-	-
44	-	-
1945 Net Additions	221	221
TOTAL	$ 6,944	$ 12,208

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 372 - OFFICE FURNITURE AND EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 504	$ 909
13	94	136
14	318	501
1915	98	139
16	278	423
17	700	894
18	86	82
19	209	188
1920	158	98
21	10	8
22	771	1,064
23	146	155
24	172	175
1925	125	133
26		-
27	15	17
28	198	356
29	153	270
1930	-	
31		
32		
33		
34	20	28
1935	10	15
36	125	178
37	-	-
38	-	-
39	-	-
1940	-	-
41	-	
42	-	
43	-	-
44	26	25
1945 Net Additions	None	None
TOTAL	$ 4,216	$ 5,794

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 373 - TRANSPORTATION EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1931	$ (1,485)	$ (1,485)
1937	410	452
1945 Net Additions	None	None
TOTAL	$ (1,075)	$ (1,033)

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 374 - STORES EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1922	$ 187	$ 375
23	277	963
1934	766	838
1938	27	27
1945 Net Additions	-	
TOTAL	$ 1,257	$ 2 203

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 375 - SHOP EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ -	$ -
13	-	-
14	4	5
1920	1	1
21	-	-
22	12	13
23	839	1,268
24	-	-
1925	-	-
26	-	-
27	-	-
28	71	84
1945 Net Additions	None	None
TOTAL	$ 927	$ 1,371

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 376 - LABORATORY EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ -	$ -
1925	159	94
1937	82	79
1945 Net Additions	None	None
TOTAL	$ 241	$ 173

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT - MARYLAND

ACCOUNT NO. 377 - TOOLS AND WORK EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 299	$ 351
13	92	187
14	374	1,233
1915	35	49
16	118	118
17	374	249
18	338	252
19	634	988
1920	355	341
21	346	522
22	454	550
23	163	306
24	513	547
1925	-	-
26	92	93
27	-	-
28	-	-
29	660	730
1930	-	-
31	-	-
32	212	213
33	-	-
34	-	-
1935	116	141
36	-	-
37	-	-
38	1,613	1,650
39	-	-
1940	-	-
41	131	117
42	102	88
43	-	-
44	-	-
1945 Net Additions	(103)	(103)
TOTAL	$ 6,918	$ 8,622

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945

BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 378 - COMMUNICATION EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1912	$ 980	$ 2,891
13	118	346
14	-	-
1915	-	-
16	-	-
17	3,007	2,720
18	-	-
19	-	-
1920	41	40
21	72	86
22	1,126	1,352
23	148	157
24	1,100	1,350
1925	1,573	599
26	1	1
27	-	-
28	51	57
29	1,215	2,533
1930	1,367	2,917
31	1,728	4,475
32	455	1,459
33	706	1,667
34	1,760	3,081
1935	643	1,480
36	470	1,050
37	18,680	23,030
38	553	726
39	884	1,308
1940	2,036	1,875
41	550	686
42	30	34
43	376	413
44	317	341
1945 Net Additions	613	613
TOTAL	$ 40,600	$ 57,287

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 379 - MISCELLANEOUS EQUIPMENT

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1942	$ 12	$ 4
1945 Net Additions	(12)	(4)
TOTAL	$ 0	$ 0

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND
COST OF CONSTRUCTING PROPERTY AS OF OF DEC. 31, 1945
BASED UPON TREND FACTORS

GENERAL PLANT

ACCOUNT NO. 393 - DONATIONS IN AID OF CONSTRUCTION (CREDIT)

ITEM	ACTUAL ORIGINAL COST OF SURVIVING PROPERTY	TRENDED CONSTRUCTION COST AS OF DEC. 31, 1945
Year		
1932	$ (590)	$ (590)
1939	(15,363)	(15.363)
1945 Net Additions	0	0
TOTAL	$ (15,953)	$ (15,953)

EXHIBIT 32.

[22252]

CHAS. T. MAIN, INC.
Architects—Engineers
201 Devonshire Street
Boston, 10, Mass.

F. M. Gunby
W. F. Uhl
A. W. Benoit
Marcus K. Bryan
R. A. Moncrieff
W. M. Hall

Industrial Plants
Textile Mills
Paper Mills
Steam Power
Water Power
Foundations
Valuations
Cable Address
Chasmain, Boston

April 10, 1946

PENNSYLVANIA WATER & POWER COMPANY
and
SUSQUEHANNA TRANSMISSION COMPANY OF MARYLAND

Outline of Estimating Procedure
Substitute and Reproduction Plant Costs

As of December 31, 1945

In developing the cost as of December 31, 1945, for the physical properties of Pennsylvania Water & Power Company and Susquehanna Transmission Company of Maryland, as shown in the attached summary, two methods were used in determining the final cost. The first method utilized trend factors to adjust actual original cost to December 31, 1945, and the second involved a new estimate of the cost of a new "Substitute Plant" with unit costs as of December 31, 1945. The first method was applied to all physical property as described in a separate report, and the second to those portions of the property where modern practices in design and operating procedure might have brought about some degree of obsolescence.

SUBSTITUTE PLANT

The major items included in the Substitute Plant are the hydro-electric development, the steam plant, the electrical equipment serving outgoing transmission lines at Holtwood, the double circuit 66 kv transmission line from Holtwood to Highlandtown, and the Highlandtown Substation. Three plans are attached showing general plans and sections of the proposed substitute plant. In the case of the steam and hydro plants certain necessary items are not included in the Substitute Plant but are retained at original cost or trended original cost. These include all Land and Land Rights, the [22253] (page 2) railroad relocation, the operators' village, the river coal plant and equipment, and all roads, trails, and bridges. Trended original costs were used for Transmission Roads, Trails, and Bridges. A more detailed reference to these items is made in the following description of Substitute Plant items.

HOLTWOOD SUBSTITUTE HYDRO PLANT

The substitute hydro plant is similar in design to Safe Harbor and other recent plants. The dam is located on the same axis as the existing dam and differs slightly from it except for length of spillway and the inclusion of a crest gate in the new design. The selection of the same site for the dam removed many of the uncertainties from the estimate of foundations, resulting in a more accurate estimate than is ordinarily possible. The length of free crest on the existing dam is 2368 feet with a 14 ft log sluice section, while the substitute dam has a free crest length slightly shorter and a 50 ft crest gate section as shown on the General Plans and Sections attached hereto. The new crest and gate section provide for a maximum discharge of 1,200,000 cubic feet per second with headwater at elevation

188 which is approximately equal to the present discharge capacity at that elevation.

In the design of the substitute power house full advantage is taken of modern developments in hydraulic turbine and generator design. The substitute plant has four main generating units instead of the original ten. The normal rating of each hydraulic turbine is 35,100 horsepower at 51 ft net head. The generators consist of three 25 cycle machines with a rating of 27,500 kva, or 25,500 kw, at .925 power factor and one 60 cycle machine with a rating of 30,000 kva, or 25,500 kw, at .85 power factor. These four units give the plant a normal capacity of 102,000 kw in the main units. The turbines are of the adjustable 5-blade propeller type which provide for high efficiency under all operating conditions.

Two Station Service Units are also provided, which are rated at 1000 kva or 750 kw at .75 power factor. The turbines for these units are vertical Francis type units with a normal rating of 1050 hp at 51 ft net head.

The arrangement of the power house, skimmer wall, deflection wall and tail race is much the same as in the present plant except that the power house length is materially reduced through elimination of six units.

Equipment design for the power house follows conventional present-day practice and besides the Generating Units themselves includes head gates, draft tube gates, operating cranes, trash racks, draft tube unwatering pumps, power house crane and [22254] (page 3) miscellaneous tools and devices.

The power house itself has concrete substructure, intake and electrical bay with the superstructure constructed of brick with structural steel frame. The roof of the electrical bay is designed to support step-up transformers for outgoing transmission lines and the power house roof is used to support substation steelwork for the outgoing lines.

Main switching control and protection equipment up to the low tension terminals of the step-up transformers is included in the substitute hydro-plant estimate as is the 25/60 cycle frequency converter. The estimate for switching and control includes a double bus arrangement for both 25 cycle and 60 cycle sections. Control and switching for generators, outgoing lines, frequency converter, station service and steam plant circuit is provided.

The frequency converter is a 31,250 kva, 25/60 cycle, synchronous-synchronous type machine rated at 25,500 kw at 0.81 power factor. The rating of the machine is determined by load requirements on both the 25 and 60 cycle systems correlated with the main generator size and output.

Transformers and high voltage switchgear are described under the Transmission system.

Comparison With Present Hydro

The property replaced, consisting of the present dam, deflection wall, skimmer wall, power house and bulkhead section, is of similar nature but of earlier design. The major difference is in the power house and equipment. The present power house measures 173 feet by 510 feet in plan whereas the substitute power house would be 102 feet by 372 feet. The housing over the intake makes an appreciable difference in width since it is eliminated in the substitute design and the reduction in the number of units reduces the length materially. The width for the substitute power house includes the electrical bay on which the new outdoor transformers are to be placed. These factors all operate to reduce the substitute power house cost as compared with the trended reproduction cost as indicated below.

Power House Cost—December 31, 1945

Substitute Plant	$5,501,738
Trended Reproduction	$7,837,311

The second major difference in the substitute hydro plant lies in the equipment. The ten original units were installed between 1910 and 1924 and range in size from 10,000 kw to 12,000 kw. [22255] (page 4) Their total actual capacity operating at full load is 103,500 kw. The substitute generators are rated at 102,000 kw for the main units and 1,500 kw for the station service, making the total capacity equal to the present plant, or 103,500 kw. However, the new equipment would be more efficient and the total capacity reached with a flow of 28,500 cubic feet per second as compared to 31,500 cubic feet per second required to reach full capacity in the present plant.

The frequency converter installation in the present plant is 12,000 kw, or equal in size to the two 60 cycle generators. In other words, total available 60 cycle capacity with one unit out of service would be 24,000 kw. This situation is duplicated in the substitute plant which has one 25,500 kw unit and one 25,500 kw frequency changer. With either of these out of service, the 60 cycle capacity of the plant would be 25,500 kw or just slightly more than provided at present.

The total cost of equipment to be installed in the substitute power house is also materially reduced because of the decrease in the number of units installed in spite of the fact that the adjustable blade units are inherently more expensive than the older Francis type as indicated below.

Hydro Plant Equipment Costs—December 31, 1945

Substitute Plant	$ 9,158,831
Trended Reproduction	$12,346,739

PRESENT ITEMS RETAINED

Items of the original hydro plant which are retained in the 1945 cost at trended reproduction or original cost are:

Land	Original Cost
Railroad Relocation	Trended Cost
Operators' Village	Trended Cost
Roads, Railroads and Bridges......	Trended Cost

The railroad relocation, the operators' village, and roads, railroads and bridges are not estimated in the substitute plant because no functional obsolescence can be found and their reconstruction today would follow the original pattern in all material aspects.

[22256] (page 5)

For the Hydro Plant substitute plant estimates represent $21,962,564 and trended reproduction costs $7,016,989 of the total estimated cost as of December 31, 1945 of $28,979,553.

HOLTWOOD SUBSTITUTE STEAM PLANT

The estimate for the substitute steam plant covers a single unit station of the same capacity as the present plant. Two separate buildings are provided as at present, one housing the steam turbine and boiler and the other housing the coal preparation plant. Both have concrete foundations, steel frame and brick exterior walls. The substitute structures are located in approximately the same sites as the present plant.

The main generating unit is a 25,000 kw, 13,800 volt, 60 cycle turbo-generator using steam at 650 lb per square inch pressure and 825 degrees throttle temperature. The electrical end is rated at 29,400 kva, allowing for 25,000 kw at .85 power factor. The steam end is gaged to carry a maximum load of 26,500 kw and this amount could be carried by the unit as long as the power factor is .90 or better.

The boiler is a Stirling type bent tube unit, rated at 275,000 lb of steam per hour and capable of delivering a maximum of 300,000 lb per hour when steam for heating and melting ice is in demand. Air heater and economizer are provided for maximum efficiency as are all the usual boiler auxiliaries including automatic combustion control. A Cotterell electrostatic precipitator is installed on the boiler house roof for fly ash collection.

Condensing water for the plant is taken from the pond above the dam through a screen house and intake tunnel.

The water is returned to the pond through a discharge tunnel so arranged as to prevent recirculation.

The coal handling and preparation equipment in the substitute plant provides for receiving coal from the River Coal Plant (included in the trended reproduction estimate) in a track hopper. Equipment is provided at the hopper to transfer the coal to the storage yard through a skip hoist and drag scraper. Storage of the wet coal in the yard for a time tends to reduce the moisture content and consequently makes the drying operation easier.

When the coal is reclaimed from storage it is delivered to two 500-ton wet coal bunkers. From these main storage bunkers the coal is delivered to two small 25-ton bunkers which feed the two dryers. The rotary type dryers are designed to reduce the moisture content of the coal from 20% to 2%. After the coal leaves the dryers it is carried through conveying and weighing equipment to two pulverizing mills designed to reduce the coal to a fineness suitable for burning. The pulverized coal is delivered from the mills through a transport pump and 5 inch steel pipe to the 100-ton pulverized coal bunker in the boiler room.

[22257] (page 6)

Auxiliaries for the steam plant include a compressed air system, fire protection system, power house crane, elevator in the boiler house and miscellaneous small items.

The electrical system at the steam plant is relatively simple, consisting only of the necessary controls at the turbine cables for delivering the generator output to the hydro plant, control cables and steam plant auxiliary equipment switching and control. The generator operates at 13,800 volts and is tied in to the system on the 13.8 kv, 60 cycle bus in the hydro plant. There is no 13.8 kv switching in the steam plant. The generators are excited by direct connected main and pilot exciters, with an emergency tie to the spare exciter in the hydro plants. All main electrical controls for the generator are likewise located in the hydro plant. Electrical equipment is provided in the steam plant for plant auxiliaries. A central switchgear group is provided in the steam station and the coal preparation plant. Local groups are also provided in the steam station, strategically situated for operation of the auxiliary equipment, but these are kept to a minimum in the coal preparation plant on account of the severe operating conditions with respect to dust and heat. The type of switching equipment used is the modern fully enclosed unit construction. Other electrical items included consist of the necessary power and control wiring for plant auxiliaries, a d-c system for the coal feeders, grounding and lighting.

COMPARISON WITH PRESENT PLANT

The present steam plant has two units presently rated at 26,000 kw, operating at 350 lb per square inch pressure and 550° temperature at the throttle. Sufficient steam capacity is provided in three boilers to carry 26,000 kw. Because of the reduction from two units to one unit and from three boilers to one boiler, the size of the power house is reduced from 146 ft x 119 ft to 127 ft x 72 ft.

The increase in boiler and turbine pressure makes possible a reduction in the total amount of steam required from 375,000 lb per hour to 300,000 lb per hour.

The comparative cost of the structures and equipment in the present plant and the substitute plant are as shown below:

Comparative Cost—December 31, 1945

	Structure	*Equipment*
Substitute Plant	$1,666,117	$3,575,975
Trended Reproduction	2,006,810	4,139,851

These figures include the dryer and pulverizer building which do not differ greatly in the present and substitute plants.

[22258] (page 7)

The coal drying equipment and the puverizing equipment in the substitute plant is similar to the most modern equipment in the present plant.

ITEMS RETAINED AT TRENDED COST

The River Coal Plant is the only item in the original design for which no substitute plant is estimated. This consists of dredges, steam boats, tug boats, barges and their auxiliaries, together with the shore installation near the steam plant. The shore installation consists of a coal washing plant for separation of the coal from the sand and silt dredged up with it.

SUBSTITUTE TRANSMISSION PLANT

The intent of the substitute transmission plant is to evaluate an economical substitute for that portion of the transmission property which might indicate obsolescence to a sufficient degree to warrant investigation, as to the feasibility of replacement in accordance with modern practice. The elements of property coming under this classification are the Holtwood-Baltimore lines and the substation equipment at each end of these lines.

HOLTWOOD SUBSTATION

The substitute transmission substation at Holtwood consists of step-up transformers and other station equipment serving the Holtwood-Baltimore lines as well as other high tension lines out of Holtwood. While the obsolescence in transmission plant may be considered as involving primarily the Holtwood-Baltimore connection, the changes required for this purpose, together with the extensive changes involved in the substitute hydro plant at Holtwood, make it desirable to provide a substitute for all substation equipment at that location.

In the proposed arrangement the transformers are located on the roof of the electrical bay, similar to the arrangement at the Safe Harbor plant. The high tension switching structure is mounted on the roof of the generator room. The switching arrangement includes no high tension circuit breakers, as the transformers are associated with specific lines and all load switching is done on the low-tension side except in emergencies. This follows the company's current practice for the past several years and also that of Safe Harbor. The low tension switchgear required for this purpose is included in the cost of the hydro plant.

COMPARISON WITH PRESENT PLANT

The major changes made in the substitute plant as compared with the existing plant are as follows:

The indoor 70 kv oil switches are eliminated; instead, air-break switches are substituted as they will provide equivalent switching service at lower cost.

[22259] (page 8)

Nine 3-phase power transformers, now located indoors, stepping up the 25 cycle power to 66 kv for transmission to Baltimore and Lancaster, are replaced by outdoor transformers, two banks stepping up power to 110 kv for transmission to Baltimore, and one 3-phase transformer stepping up to 66 kv for transmission to Lancaster. Little fundamental change is made in the 60 cycle arrangement. There is some adjustment in the sizes of transformers. There is also some change in the design of most of the transformers, particularly the 25 cycle units, to make use of modern developments such as inert gas atmosphere and air blast equipment for the higher loadings. Water cooling is eliminated.

HIGHLANDTOWN SUBSTATION

At Highlandtown a complete substitution is proposed for all property associated with transmission of power, except land. The storage and meter test facilities and the garage located at this point therefore remain unchanged. The new substation facilities consist of an outdoor 110 kv switching structure with two transformer banks stepping down to 13.8 kv, and a low tension switchhouse containing the 13.8 kv switchgear, control switchboards, and service facilities. These replace the present 8 three-phase transformers which are all indoors, the indoor 70 kv switchgear, and the low tension switchgear which is inadequate to properly handle the short circuit requirements of the present system. The number of high tension circuits is reduced due to the use of larger transformer banks possible with modern designs and the use of two lines from Holtwood instead of four. The number of low tension feeder circuits increases somewhat because some feeders are now doubled up on the same circuit on account of limited space for switching facilities. The more adequate low tension switchgear permits elimination of the current limiting reactors now required. The spray pond and transformer water cooling equipment are also eliminated in the new design by the use of self-cooled transformers with air blast equipment for the higher loadings.

HOLTWOOD-BALTIMORE LINES

The transmission lines between Holtwood and Baltimore are completely revised in the substitute layout. The present four 66 kv circuits are replaced by two 110 kv circuits. The present four circuits are run in vertical arrangement on two tower lines on a common right of way. The two substitute lines are run in flat arrangement on separate tower lines, also on a common right of way which is wider than that for the present lines. The route is assumed to be the same as that traversed by the present lines. Overhead ground wires and underground counterpoise are included in the substitute lines, following the company's practice. In view of the numerous interconnections the substitute lines are deemed to provide reliability and serviceability substantially equivalent to that originally provided by the existing lines. By operating at higher voltage with somewhat larger conductors the substitute lines will have a smaller power loss, thereby improving both the operating revenue and the effective system capacity. Assuming unity power factor on the Holtwood end of the lines, the losses [22260] (page 9) on the proposed circuits will be approximately 48% of the losses over the existing lines with a nominal load of 75,000 kw.

OTHER LINES

There is a portion of the Gunpowder transmission line now located on a portion of the same right of way at the Baltimore end of these lines. The costs used for the substitute lines disregard this condition, on the assumption that it is irrelevant to the problem and would not materially alter the overall cost picture. The company owns and operates a number of other transmission lines in both Pennsylvania and Maryland. As these are considered fully adequate for present requirements no substitution is planned for any of them. The relocation of transformers at Holtwood would require some rearrangement of the Holtwood terminations of some of these lines but no cost allowance has been included in our estimates for this as it would not substantially affect the value of the property.

OTHER SUBSTATIONS

There are also a number of other substations and switching stations which the company owns and operates. No substation plant has been figured for these as they are considered adequate and sufficiently modern.

SOURCE OF UNIT COSTS AND QUANTITIES

For the major items of equipment in the substitute plant such as hydraulic turbines, generators, turbo-generator unit, boiler transformers, and other substantial items letters were obtained from manufacturers giving the price of the equipment in question. In other cases, prices on smaller items of equipment were obtained from manufacturers' representatives by telephone or from published price lists of the manufacturers.

For field construction unit costs of recent projects including some of the Tennessee Valley Authority costs on recent projects and the prices per unit of the Wolf Creek, Table Rock and Center Hill projects, where unit prices covering direct labor and material costs were not available from current operations, unit prices were built up from material costs and prevailing wage rates applicable to the Holtwood area and finally compared with Safe Harbor cost giving consideration to increase in cost trends.

Quantities were estimated from the General Plans and Sections of the proposed substitute plant. These quantities could be checked against original quantities in some cases and the results are sufficiently accurate so that a large contingency allowance for quantity overrun is not necessary.

[22261] (page 10)

TRENDING OF DEC. 31, 1940 COSTS TO DEC. 31, 1945

Most of the costs for the substitute plant were originally estimated as of Dec. 31, 1940. This was primarily because of the fact that no major construction of this nature was carried out between 1940 and 1945. The one exception to this is the steam plant equipment and its installation which is priced at Dec. 31, 1945 because of the difficulty of obtaining equipment costs as of 1940. Trend factors for the large equipment items in the steam plant are also at or near unity in any event and the number of comparable sales of equipment of this type in that period was small so that pricing of these items as of 1945 proved desirable.

The trend factors applied to the remainder of the substitute plant were developed from actual labor rates and material costs prevailing in the area on the two dates. Each account was analyzed to determine the percent labor and material costs involved, the division between common and skilled labor and the type of material involved. From these facts and the material and labor costs combined trend factors (covering both material and labor) were developed. Direct labor and material cost for the substitute hydro plant increased 21% from Dec. 31, 1940 to Dec. 31, 1945. The corresponding figure for the substitute transmission plant of both companies was 16%. These compare with an increase in the Engineering News Record Construction Cost Index of 29.5% for the same period. Most of the substitute steam plant was not trended in this manner so no corresponding figure is available for it.

Indirect Cost and Company Expense

In all cases in the estimate for the substitute plant the unit prices used in the detailed estimate include only direct labor and material costs. Direct labor cost includes allowance for necessary overtime and payroll charges for social security, workmen's compensation, etc. Contractor's expenses and fee and other indirect costs of construction incurred by the contractor in carrying out the work are not included in the unit prices. These indirect costs amount to 18.65 percent for the hydro plant, 15.25 percent for the steam plant and 15.4 percent for the transmission plant. These percentages are applied and added to the direct labor and material cost.

In addition to the above certain expenses are incurred directly by the company because of the construction which are not covered by unit prices or indirect construction. These expenses include, legal expense, administration, field engineering, office engineering and design, accounting and purchasing, office supplies and expenses and preliminary operation. These total 10.85 percent for the hydro plant, 13.4 percent for the steam plant and 8.9 percent for the transmission plant and are applied and added to the direct labor and material costs.

[22262] (page 11)

The third item not included in direct cost is that covering contingencies. In this estimate the allowance is not as large as is usual in an estimate made from preliminary plans because foundation conditions are known at the present plant, therefore removing some of the uncertainties. The allowance for contingencies is 8.5 percent for the hydro plant, 7.5 percent for the steam plant, and 6.5 percent for the transmission plant.

These percentages are also applied and added to direct labor and material and a sub-total obtained covering direct cost of construction, indirect construction costs, company engineering supervision and expenses and contingencies. To this sub-total is added the final item covering interest and taxes during construction while the money is invested but as yet not capable of producing a return. The allowance for interest and taxes is 6.0 percent for the hydro plant, 3 percent for the steam plant and 3.1 percent for the transmission plant. These percentages are applied and added to the sub-total referred to above for the final cost as of December 31, 1945. The allowance for interest is based on a rate of 6% and construction periods ranging from a little over a year for the steam plant to 2½ years for the hydro plant.

In the determination of the amount of indirect costs and company expense we have been guided by the company's experience at Safe Harbor. A detailed explanation of these costs as experienced by the company is included in Estimate of Constructing and Reproducing the Entire Physical Properties as of December 31, 1945 by Chas. T. Main, Inc.

PENNSYLVANIA WATER & POWER COMPANY
and
SUSQUEHANNA TRANSMISSION COMPANY OF MARYLAND
SUMMARY
SUBSTITUTE AND REPRODUCTION PLANT COSTS
AS OF DECEMBER 31, 1945

	1 Trended Reproduction Cost as of Dec. 31, 1945	2 Amount to be Replaced by Substitute Plant	3 Amount of Trended Reproduction Cost Retained	4 Estimated Cost of Substitute Plant	5 Total Cost as of Dec.31,1945
Pennsylvania Water & Power Company					
Intangible Plant	$ 790,803	$ -	$ 790,803	$ -	$ 790,803
Steam Plant					
310 Land & Land Rights	2,000	-	2,000	-	2,000
311 Structures & Improvements	2,067,055	2,006,810	60,245	1,666,117	1,726,362
312 Boiler Plant Equipment	2,580,059	2,271,291	308,768	1,893,286	2,202,054
314 Turbo-Generator Units	1,221,425	1,221,425	-	1,024,144	1,024,144
315 Accessory Electric Equipment	586,152	548,357	37,795	503,554	541,349
316 Misc. Power Plant Equipment	379,734	98,778	280,956	155,001	435,957
Total Steam Plant	$ 6,836,425	$ 6,146,661	$ 689,764	$ 5,242,102	$ 5,931,866
Hydro Plant					
320 Land & Land Rights	$ 5,292,428	$ -	$ 5,292,428	$ -	$ 5,292,428
321 Structures & Improvements	9,409,241	7,837,311	1,571,930	5,501,738	7,073,668
322 Reservoirs, Dams & Waterways	7,675,794	7,675,794	-	7,301,995	7,301,995
323 Hydraulic Turbines & Generators	9,030,608	9,030,608	-	6,571,954	6,571,954
324 Accessory Electric Equipment	2,977,842	2,977,842	-	2,216,053	2,216,053
325 Misc. Power Plant Equipment	338,289	338,289	-	370,824	370,824
326 Roads, Railroads & Bridges	152,631	-	152,631	-	152,631
Total Hydro Plant	$34,876,833	$27,859,844	$ 7,016,989	$21,962,564	$28,979,553

	1 Trended Reproduction Cost as of Dec. 31, 1945	2 Amount to be Replaced by Substitute Plant	3 Amount of Trended Reproduction Cost Retained	4 Estimated Cost of Substitute Plant	5 Total Cost as of Dec. 31, 1945
Pennsylvania Water & Power Company					
Transmission Plant					
340 Land & Land Rights	$ 1,498,575	$ -	$ 1,498,575	$ 6,214	$ 1,504,789
341 Clearing Land & Rights of Way	235,282	17,807	217,475	18,433	235,908
342 Structures & Improvements	558,466	34,279	524,187	7,204	531,391
343 Station Equipment	3,890,451	1,961,053	1,929,398	1,719,391	3,648,789
344 Towers & Fixtures	1,964,770	281,178	1,683,592	283,414	1,967,006
345 Poles & Fixtures	14,673	-	14,673	-	14,673
346 Overhead Conductors & Devices	1,266,021	119,213	1,146,808	92,462	1,239,270
349 Roads & Trails	58,362	-	58,362	-	58,362
Total Transmission Plant	$ 9,486,600	$ 2,413,530	$ 7,073,070	$ 2,127,118	$ 9,200,188
General Plant	$ 1,000,041	-	$ 1,000,041	-	$ 1,000,041
Total Pennsylvania Water & Power Co.	$52,990,702	$36,420,035	$16,570,667	$29,331,784	$45,902,451

	1 Trended Reproduction Cost as of Dec. 31, 1945	2 Amount to be Replaced by Substitute Plant	3 Amount of Trended Reproduction Cost Retained	4 Estimated Cost of Substitute Plant	5 Total Cost as of Dec.31,1946
Susquehanna Transmission Co.of Maryland					
Intangible Plant	$ 9,000	$ -	$ 9,000	$ -	$ 9,000
Transmission Plant					
340 Land & Land Rights	2,528,645	-	2,528,645	47,255	2,575,900
341 Clearing Land & Rights of Way	317,848	49,835	268,013	71,740	339,753
342 Structures & Improvements	886,932	707,107	179,825	383,384	563,209
343 Station Equipment	1,457,874	1,396,028	61,846	1,621,204	1,683,050
344 Towers & Fixtures	2,463,735	777,575	1,686,160	959,050	2,645,210
345 Poles & Fixtures	937	-	937	-	937
346 Overhead Conductors & Devices	1,620,452	416,198	1,204,254	336,776	1,541,030
349 Roads & Trails	63,580	-	63,580	-	63,580
Total Transmission Plant	$ 9,340,003	$ 3,346,743	$ 5,993,260	$ 3,419,409	$9,412,669
General Plant	$ 70,672	$ -	$ 70,672	$ -	$ 70,672
Total Susquehanna Transmission Company of Maryland	$ 9,419,675	$ 3,346,743	$ 6,072,932	$ 3,419,409	$ 9,492,341
Grand Total Pennsylvania W & P Co.and Susquehanna T.Co. of Md.	$62,410,377	$39,766,778	$22,643,599	$32,751,193	$55,394,792

PENNSYLVANIA WATER & POWER COMPANY
and
SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

SUBSTITUTE PLANT
ESTIMATE OF CONSTRUCTION COST
AS OF DECEMBER 31, 1945

SUMMARY

Substitue Steam Plant

Acct No.	Item	Estimate
310	Land & Land Rights	-
311	Structures & Improvements	$1,666,117
312	Boiler Plant Equipment	1,893,286
314	Turbo-Generator Units	1,024,144
315	Accessory Electric Equipment	503,554
316	Misc. Power Plant Equipment	155,001
	TOTAL STEAM PLANT	$5,242,102

Substitute Hydro Plant

Acct No.	Item	Estimate
320	Land & Land Rights	-
321	Structures & Improvements	$5,501,738
322	Reservoirs, Dams, & Waterways	7,301,995
323	Hydraulic Turbines and Generators	6,571,954
324	Accessory Electric Equipment	2,216,053
325	Misc. Power Plant Equipment	370,824
326	Roads, Railroads & Bridges	-
	TOTAL HYDRO PLANT	$21,962,564

Substitute Transmission Plant - P.W.& P. Co.

Acct No.	Item	Estimate
340	Land & Land Rights	$ 6,214*
341	Clearing Land & Rights-of-Way	18,433
342	Structures & Improvements	7,204
343	Station Equipment	1,719,391
344	Towers & Fixtures	283,414
345	Poles & Fixtures	-
346	Overhead Conductors & Devices	92,462
349	Roads & Trails	-
	TOTAL P. W. P. CO. TRANSMISSION	$2,127,118
	TOTAL P. W. P. CO. SUBSTITUTE PLANT	$29,331,784

Transmission S. T. Co. of Maryland

Acct No.	Item	Estimate
340	Land & Land Rights	$ 47,255*
341	Clearing Land & Rights-of-Way	71,740
342	Structures & Improvements	383,384
343	Station Equipment	1,621,204
344	Towers & Fixtures	959,050
345	Poles & Fixtures	-
346	Overhead Conductors & Devices	336,776
349	Roads and Trails	-
	TOTAL S. T. CO. OF MARYLAND SUBSTITUTE PLANT	$3,419,409
	TOTAL SUBSTITUTE PLANT	$32,751,193

* Penna. Water & Power Co. Estimate

PENNSYLVANIA WATER & POWER COMPANY

SUBSTITUTE HOLTWOOD STEAM PLANT

SUMMARY OF COST AS OF DECEMBER 31, 1945

Acct No.	Description	Total Direct Cost	Total Incl. Indirect Cost
311	Structures & Improvements	$1,188,093	$1,666,117
312	Boiler Plant Equipment	1,350,086	1,893,286
314	Turbo-Generator Units	730,308	1,024,144
315	Accessory Elec. Equipment	359.080	503,554
316	Misc. Power Plant Equipment	110,530	155,001
	TOTAL DIRECT COST - 1945	$3,738,097	
	INDIRECT CONSTRUCTION COSTS	570,060	
	Company Engineering, Supervision and Expense	500,905	
	Contingencies	280,357	
	SUB-TOTAL	$5,089,419	
	Interest and Taxes During Construction	152,683	
	TOTAL COST HOLTWOOD SUBSTITUTE STEAM PLANT - 1945	$5,242,102	$5,242,102

Exhibit No. 32

PENNSYLVANIA WATER & POWER COMPANY

SUBSTITUTE HOLTWOOD HYDRO PLANT

SUMMARY OF COST AS OF DECEMBER 31, 1945

Acct No.	Description	Total Direct Cost	Total Incl. Indirect Cost
321	Structures & Improvements	$3,761,101	$5,501,738
322	Reservoirs, Dams & Waterways	4,991,793	7,301,995
323	Hydraulic Turbines & Generators	4,492,722	6,571,954
324	Accessory Electric Equipment	1,514,939	2,216,053
325	Misc. Power Plant Equipment	253,503	370,824
	TOTAL DIRECT COST - 1945	$15,014,058	
	INDIRECT CONSTRUCTION COSTS	2,800,122	
	Company Engineering, Supervision and Expense	1,629,025	
	Contingencies	1,276,195	
	SUB-TOTAL	$20,719,400	
	Interest & Taxes During Construction	1,243,164	
TOTAL COST HOLTWOOD SUBSTITUTE HYDRO PLANT - 1945		$21,962,564	$21,962,564

Exhibit No. 32

PENNSYLVANIA WATER & POWER COMPANY

SUBSTITUTE TRANSMISSION PLANT

SUMMARY OF COST AS OF DECEMBER 31, 1945

Acct No.	Description	Total Direct Cost	Total Incl. Indirect Cost
341	Clearing Land & Rights-of-Way	$13,669	$18,433
342	Structures & Improvements	5,342	7,204
343	Station Equipment	1,274,994	1,719,391
344	Towers & Fixtures	210,163	283,414
346	Overhead Conductors & Devices	68,564	92,462
	TOTAL DIRECT COST OF TRANSMISSION - 1945	1,572,732	
	INDIRECT CONSTRUCTION COSTS	242,201	
	Company Engineering, Supervision and Expense	139,973	
	Contingencies	102,227	
	SUB-TOTAL	$2,057,133	
	Interest & Taxes During Construction	63,771	
	TOTAL COST PENNA. WATER & POWER CO. TRANSMISSION - 1945	$2,120,904	$2,120,904
*340	Land & Land Rights		6,214
	TOTAL SUBSTITUTE PLANT ESTIMATE		$ 2,127,118

* Penna. Water & Power Co. Estimate

Exhibit No. 32

SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

SUBSTITUTE TRANSMISSION PLANT

SUMMARY OF COST AS OF DECEMBER 31, 1945

Acct No.	Description	Total Direct Cost	Total Incl. Indirect Cost
341	Clearing Land & Rights-of-Way	53,198	71,740
342	Structures & Improvements	284,294	383,384
343	Station Equipment	1,202,185	1,621,204
344	Towers & Fixtures	711,173	959,050
346	Overhead Conductors & Devices	247,508	336,776
	TOTAL DIRECT COST OF TRANSMISSION - 1945	2,498,358	
	INDIRECT CONSTRUCTION COSTS	387,655	
	Company Engineering Supervision and Expense	222,354	
	Contingencies	162,393	
	SUB-TOTAL	$3,270,760	
	Interest & Taxes During Construction	101,394	
TOTAL COST S.T. CO. OF MD. TRANSMISSION - 1945		$3,372,154	$3,372,154
*340	Land & Land Rights		47,255
	TOTAL SUBSTITUTE PLANT ESTIMATE		$3,419,409

* Penna. Water & Power Co. Estimate

Exhibit No. 32

PENNSYLVANIA WATER AND POWER COMPANY

TREND DEC. 31, 1940
to
DEC. 31, 1945

HOLTWOOD SUBSTITUTE HYDRO PLANT

Acct No.	1940 Direct Cost	Trend Factor	1945 Direct Cost
320			
321	$ 2,906,570	1.294	$ 3,761,101
322	3,831,000	1.303	4,991,793
323	4,110,450	1.093	4,492,722
324	1,332,400	1.137	1,514,939
325	229,000	1.107	253,503
326	-	-	-
TOTAL	$12,409,420		$15,014,058

Exhibit No. 32

PENNSYLVANIA WATER & POWER COMPANY
and
SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

Trend Dec. 31, 1940
to
Dec. 31, 1945

Substitute Transmission Plant

Penn. Water & Power Co.

Acct No.	1940 Direct Cost	Trend Factor	1945 Direct Cost
341	$ 9,736	1.404	$ 13,669
342	4,210	1.269	5,342
343	1,151,756	1.107	1,274,994
344	159,335	1.319	210,163
346	68,564	1.000	68,564
TOTAL	$1,393,601		$1,572,732

Susquehanna Trans. Co. of Maryland

Acct No.	1940 Direct Cost	Trend Factor	1945 Direct Cost
341	$ 37,890	1.404	$ 53,198
342	224,030	1.269	284,294
343	1,032,075	1.111	1,202,185
344	540,405	1.316	711,173
346	247,508	1.000	247,508
TOTAL	$2,131,908		$2,498,358

PENNSYLVANIA WATER & POWER COMPANY

SUBSTITUTE STEAM POWER PLANT

SUMMARY OF DIRECT COSTS AS OF DECEMBER 31, 1945

Acct No.		Cost	
3111	Site Improvement see Acct. 3711		
3112	Substructure	$ 205,325	
3113	Building Superstructure	915,624	
3114	Structures Equipment	67,144	
	TOTAL ACCT. 311		$1,188,093
3121	Boiler Plant Equipment	874,164	
3122	Coal Preparation Plant	369,516	
3124	Coal Unloading & Handling Equipment	106,406	
	TOTAL ACCT. 312		$1,350,086
3141	Main Turbo-Generator Unit	578,718	
3142	Auxiliary Equipment	151,590	
	TOTAL ACCT. 314		$ 730,308
315	Accessory Electrical Equipment		359,080
3161	Auxiliary Power Plant Equipment	70,530	
3163	General Outside Mechanical Equipment	40,000	
	TOTAL ACCT. 316		$ 110,530
TOTAL DIRECT LABOR & MATERIAL COST			$3,738,097

Exhibit No. 32

PENNSYLVANIA WATER & POWER COMPANY

SUBSTITUTE HOLTWOOD HYDRO PLANT

SUMMARY OF DIRECT COSTS AS OF DECEMBER 31, 1940

Acct. No.	Item	Direct Cost	
3211	Site Improvement	$ ---	
12	Powerhouse Substructure	1,369,100	
13	Powerhouse Superstructure	750,700	
14	Structures Equipment	261,700	
15	Cable Tunnel	1,270	
16	Operators' Village	---	
17	Intake Equipment	446,000	
18	Tailrace Equipment	45,000	
19	Filter Plant	32,800	
	TOTAL ACCT. 321		$2,906,570
21	Dam Investigation	60,000	
22	Dam	2,003,000	
23	Forebay	239,000	
24	Tailrace	817,000	
26	Cofferdams	712,000	
27	Reservoir	---	
	TOTAL ACCT. 322		$3,831,000
31	Turbine Tests	---	
32	Turbines - main units	1,800,000	
33	Turbines - service units	45,000	
34	Generators - main units	1,722,000	
35	Generators - service units	31,400	
36	Frequency Converter	487,050	
37	Auxiliary Equipment	25,000	
	TOTAL ACCT. 323		$4,110,450
41	Main Switching, cont. & prot. eq.	1,033,010	
42	Aux. Switching, cont. & prot. eq.	112,000	
43	Auxiliary protecting eq.	168,540	
44	Excitation System	18,850	
	TOTAL ACCT. 324		$1,332,400
51	Auxiliary Power Plant Equip.		229,000
TOTAL			$12,409,420

PENNSYLVANIA WATER & POWER COMPANY
and
SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

Substitute Transmission Plant

Summary of Direct Cost as of Dec. 31, 1940

Pennsylvania Water & Power Company

Acct. No.	Description	Estimate
340	Land & Land Rights	---
341	Clearing Land & Rights-of-Way	$ 9,736
342	Structures & Improvements	4,210
343	Station Equipment	1,151,756
344	Towers & Fixtures	159,335
345	Poles & Fixtures	---
346	Overhead Conductors & Devices	68,564
349	Roads & Trails	---
	TOTAL PENN. WATER & POWER CO.	$1,393,601

Susquehanna Transmission Co. of Maryland

Acct. No.	Description	Estimate
340	Land & Land Rights	---
341	Clearing Land & Rights-of-Way	$37,890
342	Structures & Improvements	224,030
343	Station Equipment	1,082,075
344	Towers & Fixtures	540,405
345	Poles & Fixtures	---
346	Overhead Conductors & Devices	247,508
349	Roads & Trails	---
	TOTAL SUSQUEHANNA TRANSMISSION CO. OF MARYLAND	$2,131,908

Exhibit No. 32

PENNSYLVANIA WATER & POWER COMPANY

SUBSTITUTE HOLTWOOD HYDRO PLANT

INDIRECT CONSTRUCTION COSTS AND COMPANY EXPENSE

Indirect Construction Costs		
Constructor's Expense	2.30%	
Constructor's Fee	3.50%	
Insurance (Other Than Employee)	0.40%	
Construction Equipment	4.40%	
Temporary Construction & Service Facilities	7.80%	
Camp, Commissary & Hospital	0.25%	
Total Indirect Construction Costs		18.65%
Company Engineering Supervision & Expense		
Legal Expense	0.50%	
Engineering & Supervision of Construction		
Administration	0.50%	
Field Engineering	2.50%	
Office Engineering	5.00%	
Accounting & Purchasing	0.25%	
Office Supplies & Expenses	1.40%	
Consulting Engr's Fees & Expenses	0.50%	
Total Engineering & Supervision	10.15%	
Preliminary Operating Expenses	0.20%	
Total Engineering Supervision & Expense		10.85%
Contingencies		8.50%
Sub-Total		38.00%
Interest & Taxes		
Interest During Construction	5.88%	
Taxes During Construction	0.12%	
Total Interest & Taxes		6.00%

PENNSYLVANIA WATER & POWER COMPANY

SUBSTITUTE HOLTWOOD STEAM PLANT

INDIRECT CONSTRUCTION COSTS AND COMPANY EXPENSE

Indirect Construction Costs		
Constructor's Expenses	2.30%	
Constructors Fee	3.50%	
Insurance (Other Than Employee)	0.10%	
Construction Equipment	3.70%	
Temporary Construction & Service Facilities	5.40%	
Camp, Commissary & Hospital	0.25%	
Total Indirect Construction Costs		15.25%
Company Engineering Supervision & Expense		
Legal Expense	0.50%	
Engineering & Supervision of Construction		
Administration	0.50%	
Field Engineering	2.50%	
Office Engineering	7.00%	
Accounting & Purchasing	0.75%	
Office Supplies & Expenses	1.25%	
Consulting Engrs. Fees & Expenses	0.50%	
Total Engineering & Supervision	12.50%	
Preliminary Operating Expenses	0.40%	
Total Engineering Supervision & Expense		13.40%
Contingencies		7.50%
Sub-Total		36.15%
Interest & Taxes		
Interest During Construction	2.90%	
Taxes During Construction	.10%	
Total Interest & Taxes		3.00%

Exhibit No. 32

PENNSYLVANIA WATER & POWER COMPANY
and
SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

Substitute Transmission Plant

INDIRECT CONSTRUCTION COSTS AND COMPANY EXPENSE

Other Direct Costs		
Overtime Pay	3.428%	
Labor Overheads	6.15%	
Combined - Other Direct Costs		*9.8%
Indirect Construction Costs		
Constructor's Expense	2.7%	
Constructor's Fee	4.3%	
Insurance (Other Than Employee)	0.2%	
Construction Equipment	1.5%	
Temporary Facilities	4.7%	
Camp Expense	2.0%	
Total Indirect Construction Cost		15.4%
Company Engineering, Supervision & Expense		
Legal Expense	0.2%	
Engineering & Supervision of Construction		
Administration	0.5%	
Field Engineering	2.7%	
Office Engineering	3.5%	
Accounting & Purchasing	0.75%	
Office Supplies & Expenses	1.25%	
Total Engineering & Supervision	8.7%	
Total Company Engr.,Supervision & Expense		8.9%
Contingencies		6.5%
Sub-Total		30.8%
Interest & Taxes		
Interest During Construction	3.0%	
Taxes During Construction	0.1%	
Total Interest & Taxes		3.1%

Note: Other Direct Costs are applied to all Transmission Accounts, except Acct. 342. In Acct. 342 these items are included in the Unit Costs, as is the case with the substitute Steam and Hydro Plants. The percentage shown is applied to Direct Labor Cost Only.

Exhibit No. 32

PENNSYLVANIA WATER & POWER COMPANY
and
SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

Trend Factors
Dec. 31, 1940
to
Dec. 31, 1945

Substitute Transmission Plant

Pennsylvania Water & Power Company

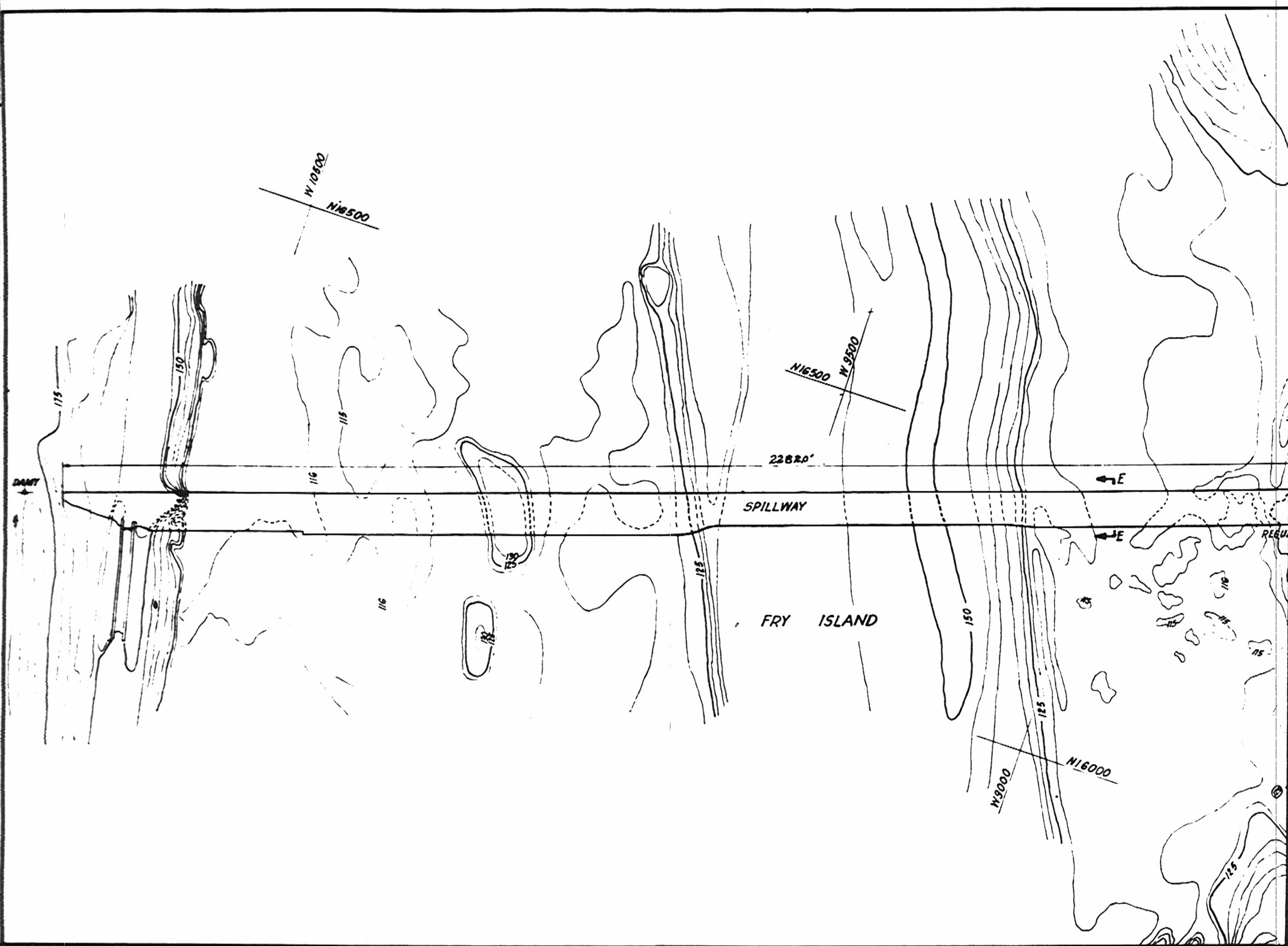
Acct. No.	Labor Factor	% Labor	Material Factor	% Material	Combined Trend Factor
Steam Plant					
311	1.390	50.64	1.200	49.36	1.296
312	1.39	16.19	1.057	83.81	1.111
314	1.39	30.00	1.274	70.00	1.310 (Turbine Foundation (Only
315	Not used				
316	Not used				
Hydro Plant					
321	1.390	44.60	1.216	55.40	1.294
322	1.390	50.25	1.216	49.75	1.303
323	1.390	4.97	1.077	95.03	1.093
324	1.390	24.80	1.053	75.20	1.137
325	1.390	19.65	1.038	80.35	1.107
326	1.390	53.30	1.120	46.70	1.264

PENNSYLVANIA WATER & POWER COMPANY
and
SUSQUEHANNA TRANSMISSION CO. OF MARYLAND

TREND FACTORS DECEMBER 31, 1940 - DECEMBER 31, 1945

SUBSTITUTE PLANT

Acct No.	Labor Factor	% Labor	Material Factor	% Material	Combined Trend Factor
Pennsylvania Water & Power Company Transmission Plant					
341	1.404	98.50	1.404	1.50	1.404
342	1.349	39.93	1.216	60.07	1.269
343	1.390	17.94	1.045	82.06	1.107
344	1.328	29.37	1.315	70.63	1.319
346	1.326	10.40	0.969	89.60	1.000
349	1.404	45.74	1.337	54.26	1.368
Susquehanna Trans. Co. of Maryland Transmission Plant					
341	1.404	98.50	1.404	1.50	1.404
342	1.349	39.93	1.216	60.07	1.269
343	1.349	23.43	1.038	76.57	1.111
344	1.328	25.15	1.312	74.85	1.316
346	1.326	10.40	0.969	89.60	1.000
349	1.404	55.58	1.130	44.42	1.282



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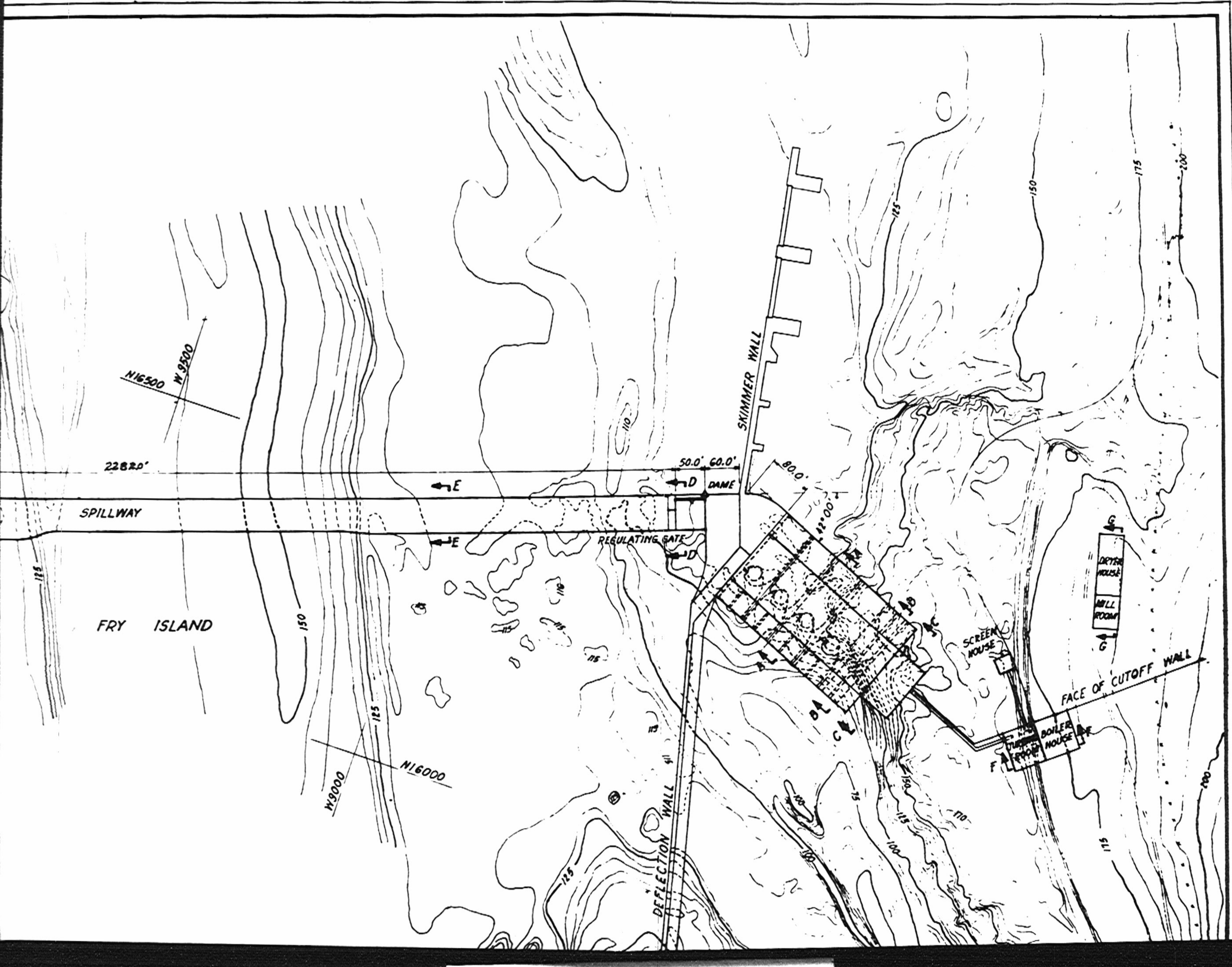

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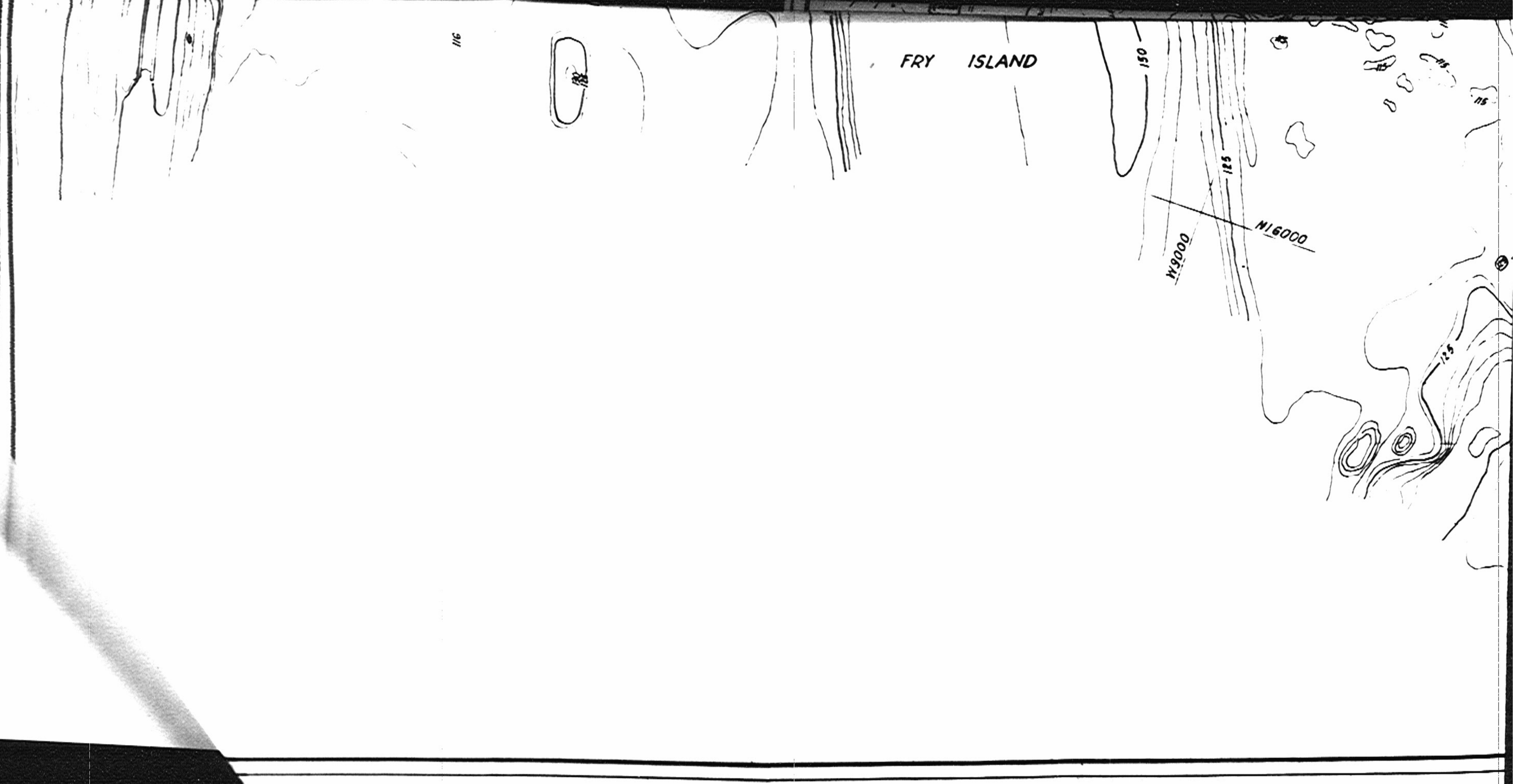

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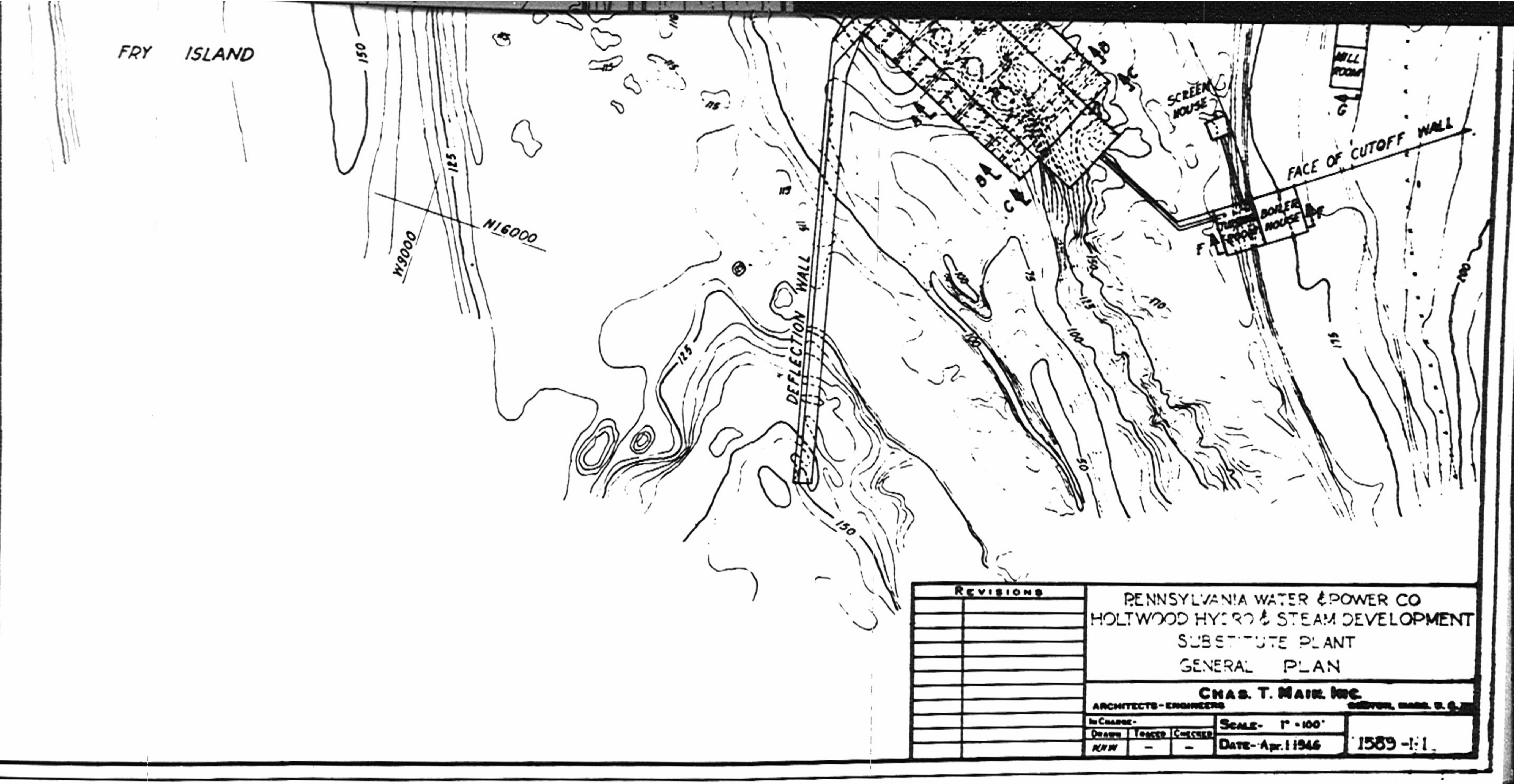

REVISIONS	

PENNSYLVANIA WATER & POWER CO
HOLTWOOD HYDRO & STEAM DEVELOPMENT
SUBSTITUTE PLANT
GENERAL PLAN

CHAS. T. MAIN INC.
ARCHITECTS - ENGINEERS
BOSTON, MASS. U.S.A.

In Charge-			Scale- 1" = 100'	1589-H1
Drawn	Traced	Checked		
KHW	—	—	Date- Apr. 1 1946	

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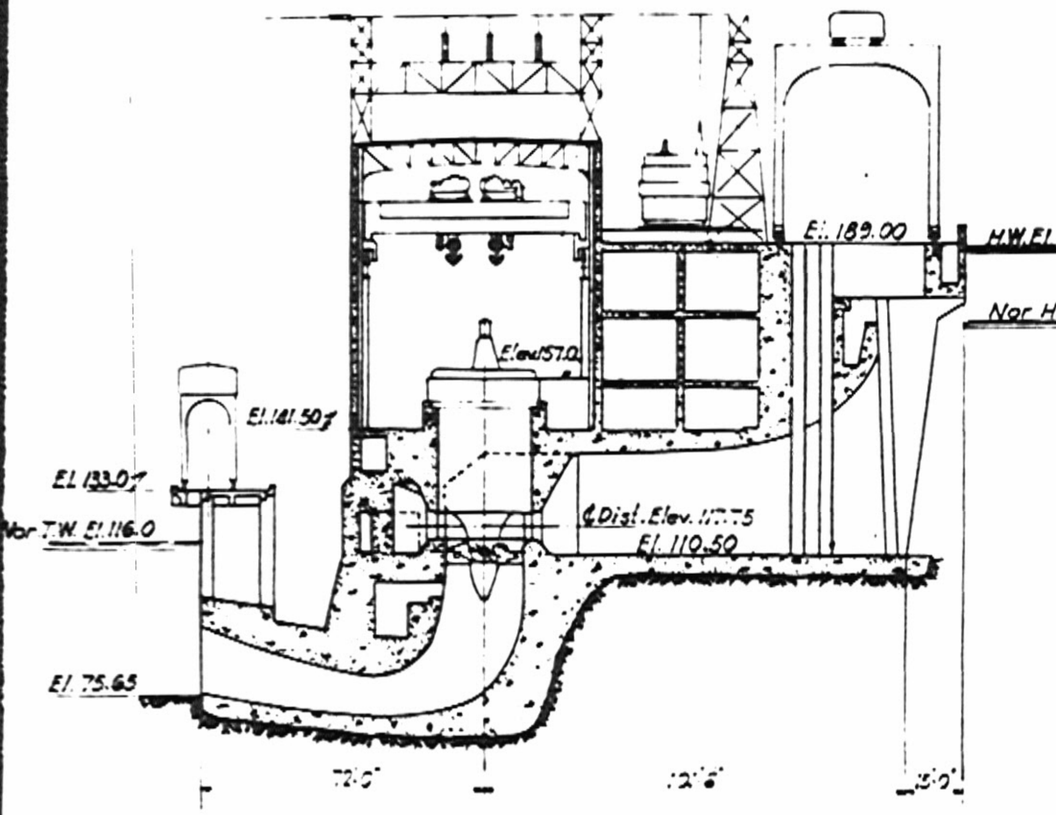

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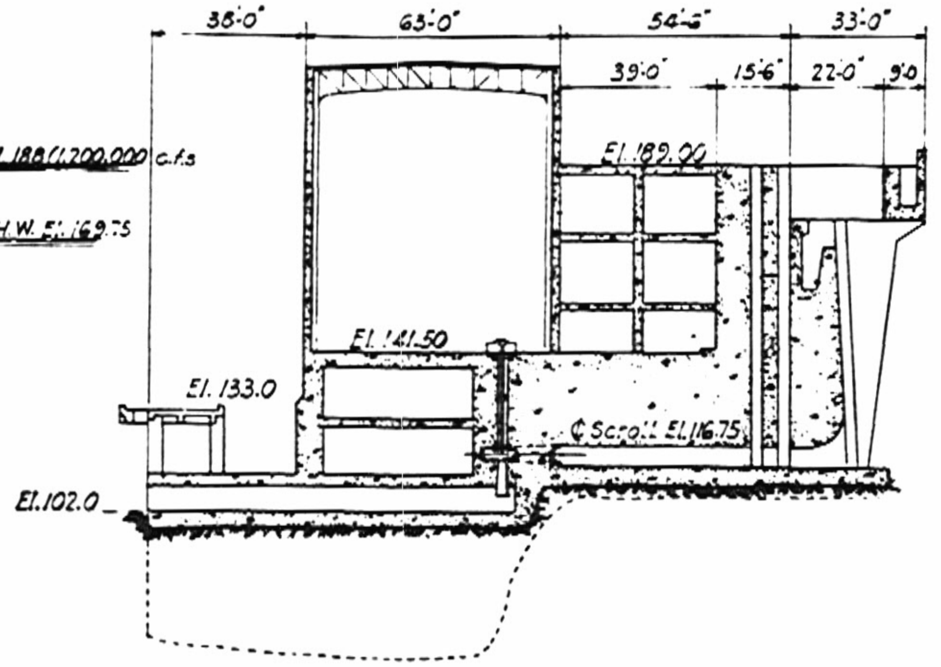

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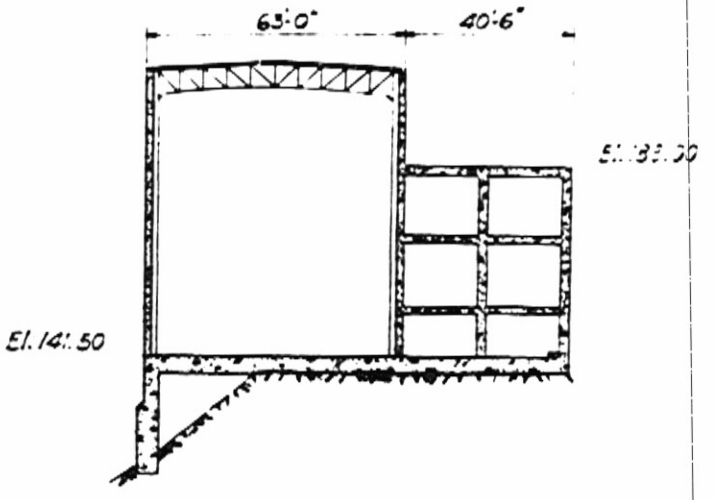

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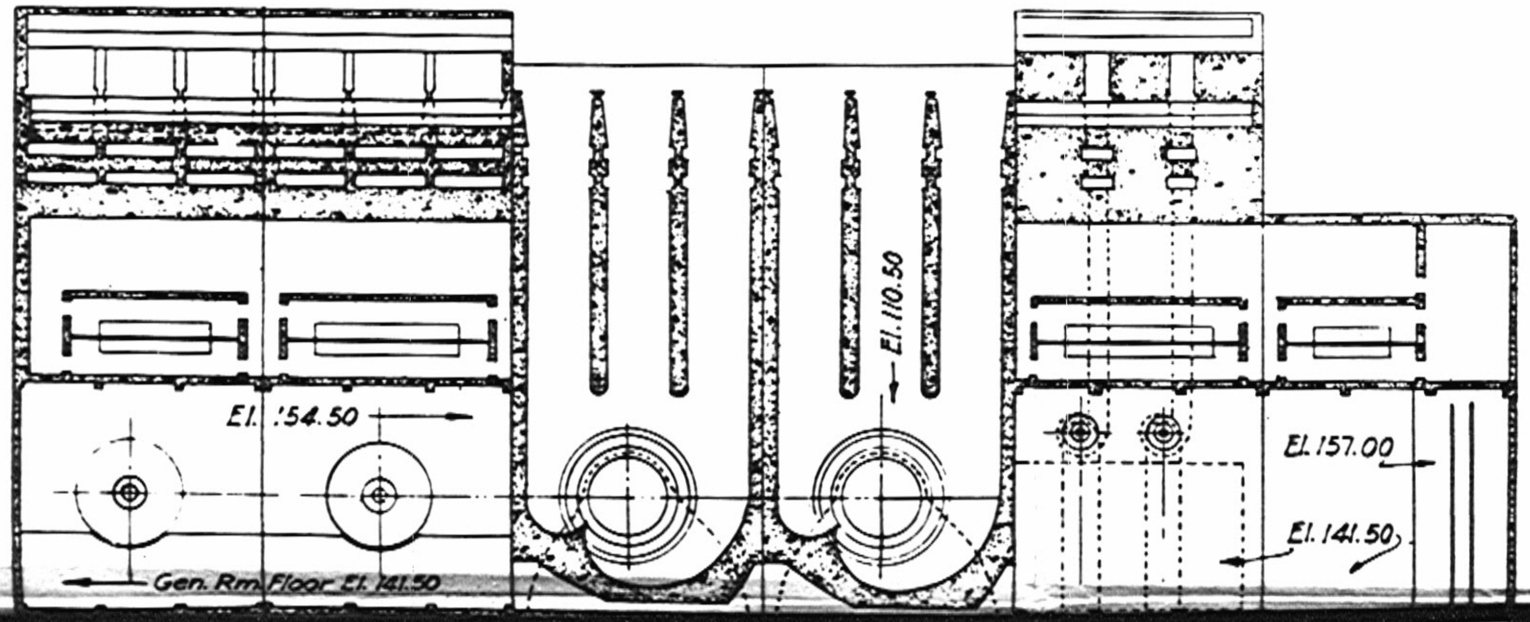

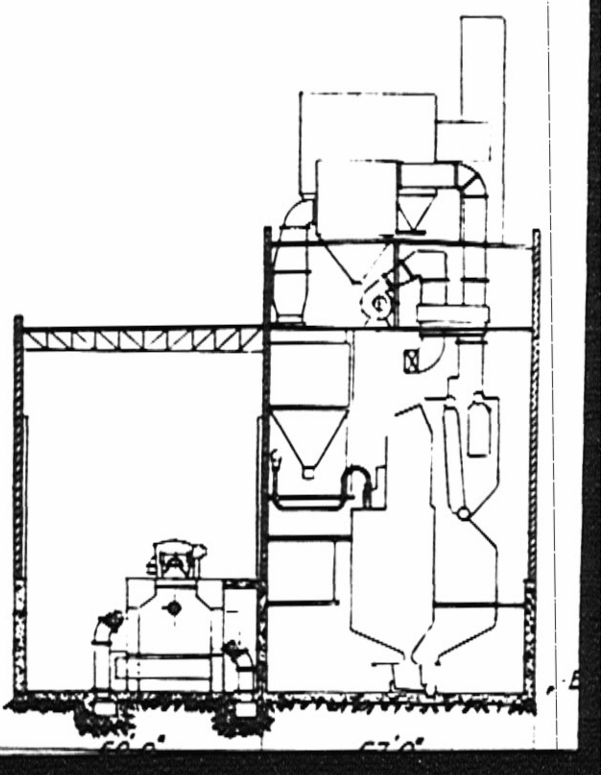

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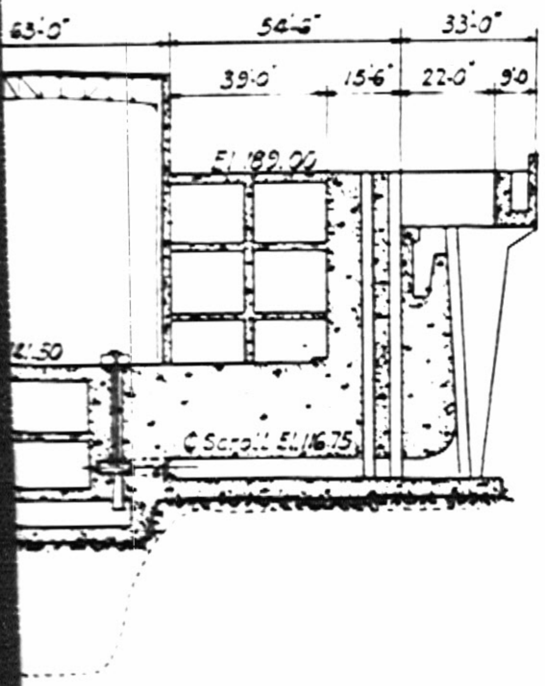

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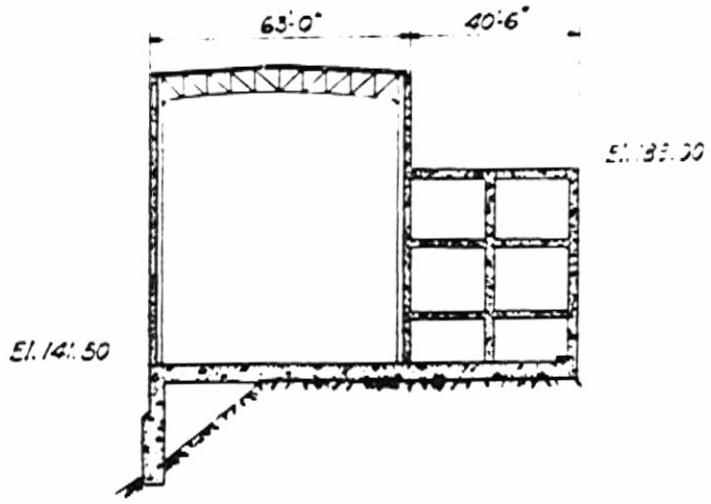

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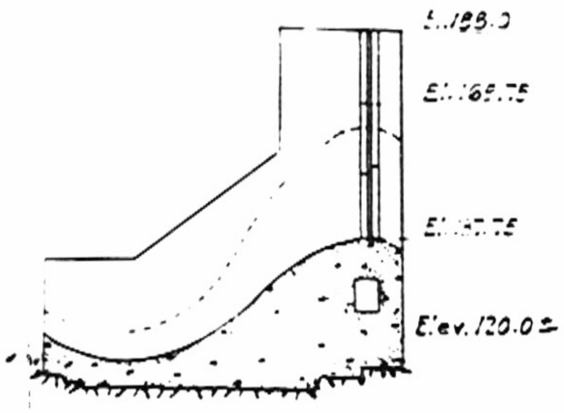

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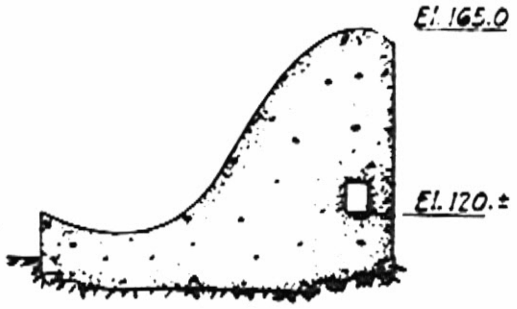

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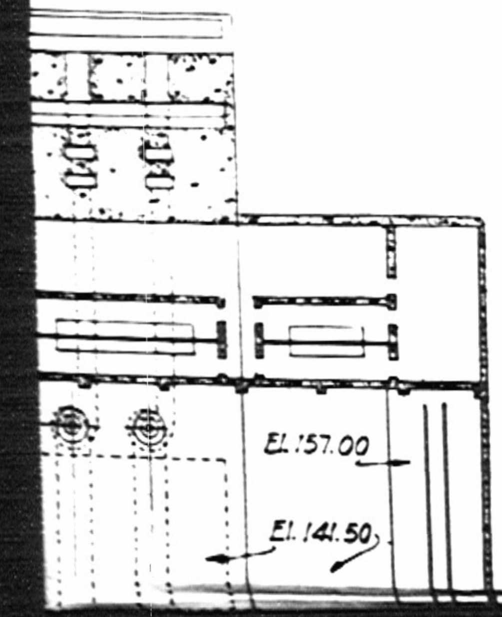

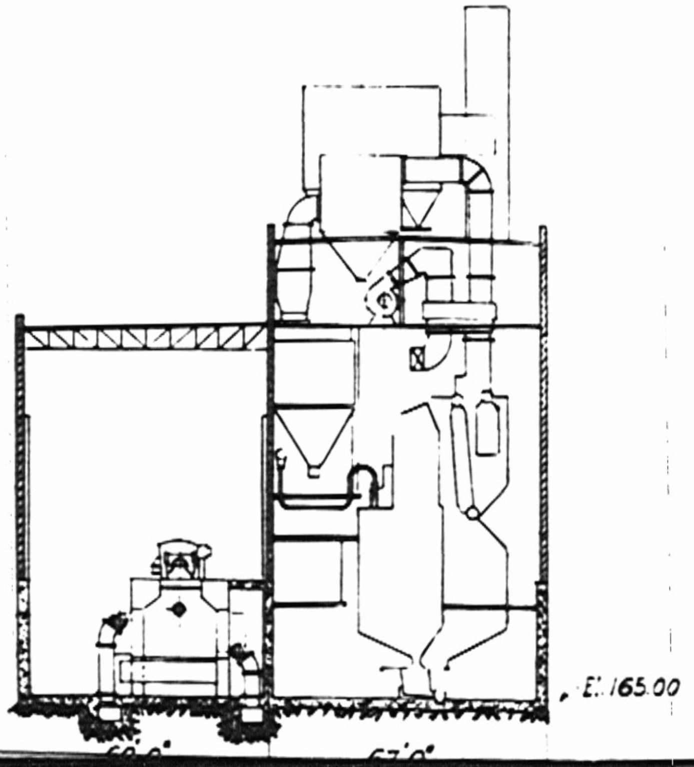

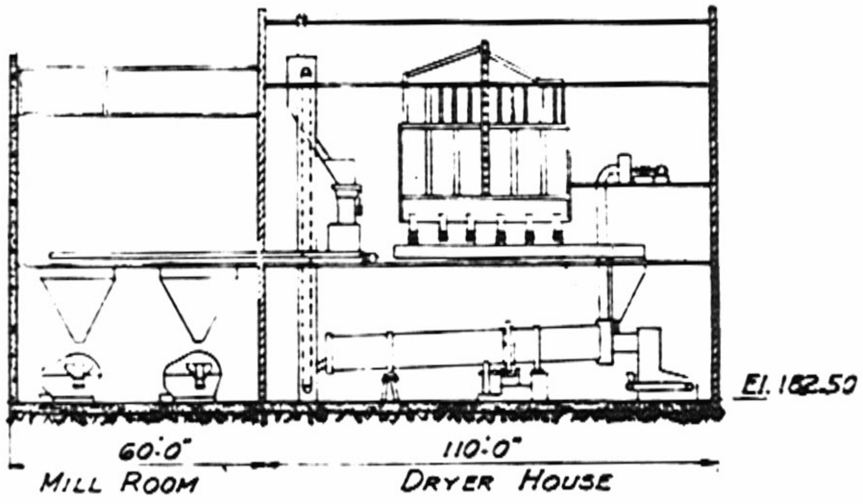

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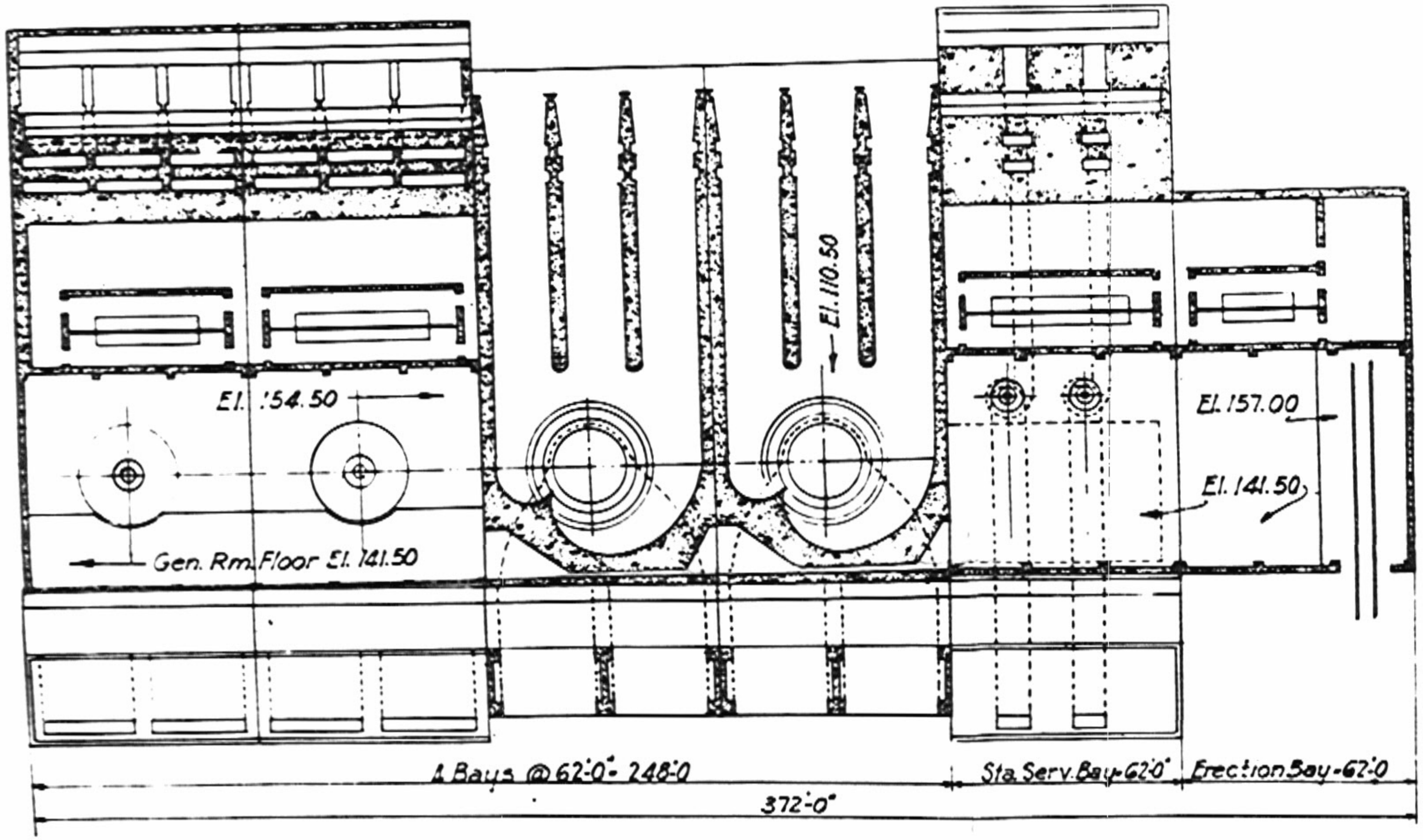

SECTIONAL PLAN
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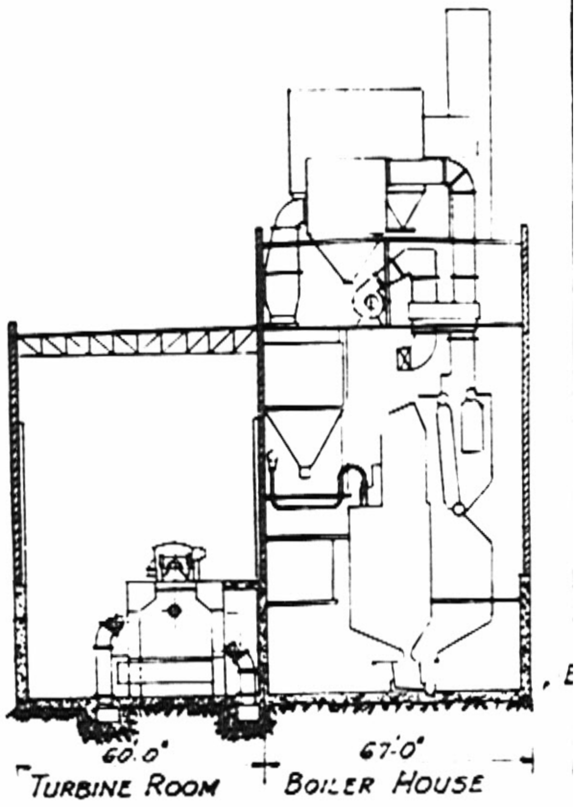

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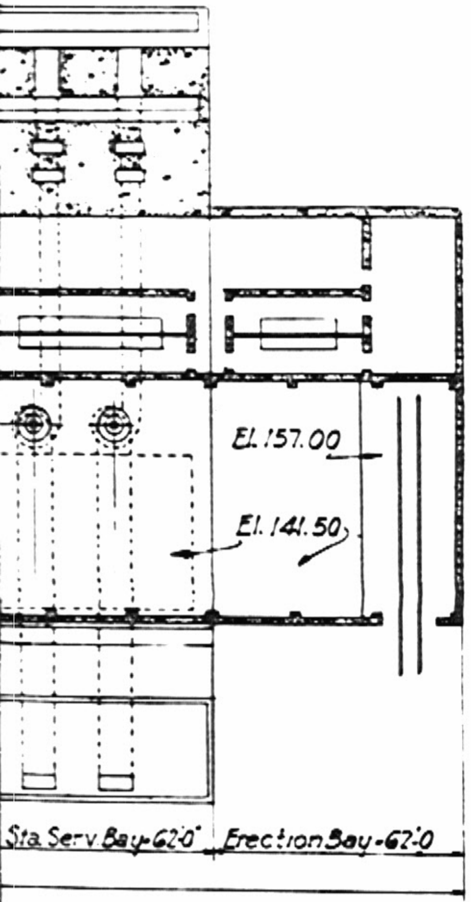

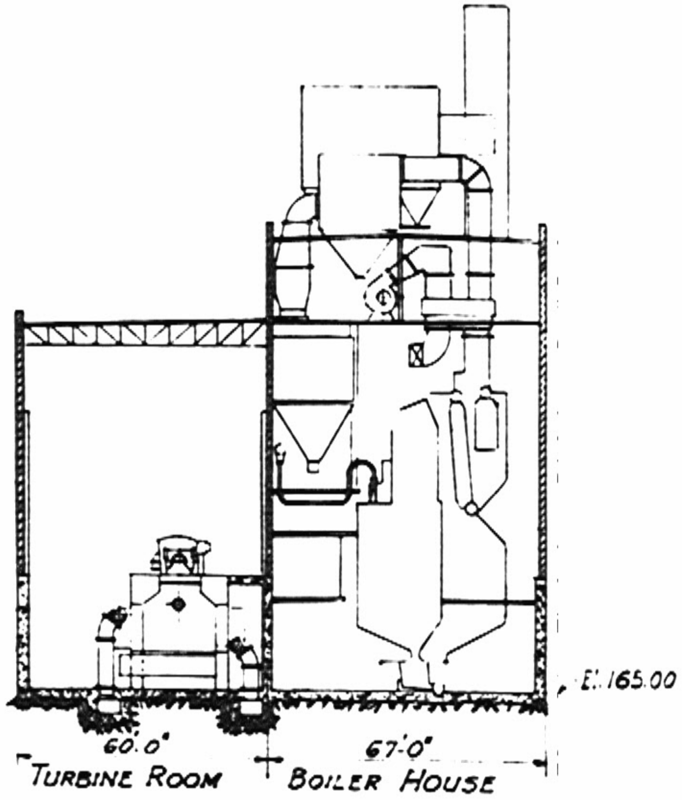

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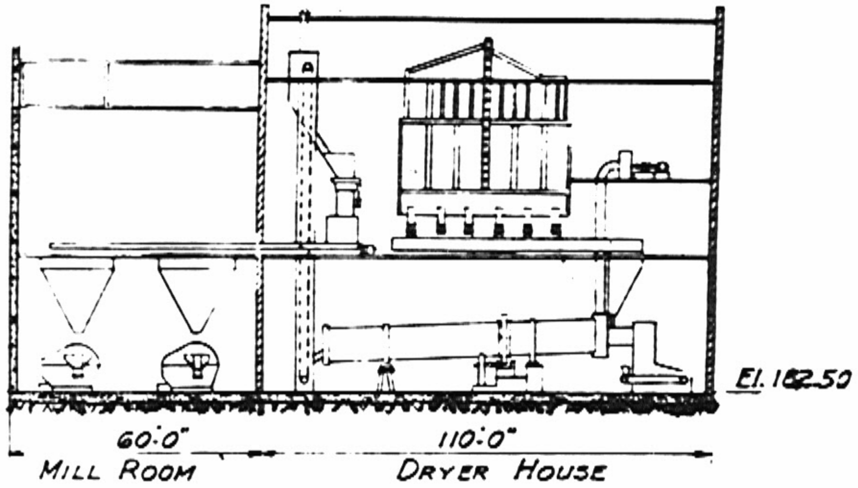

SECTION-GG

Revisions	

PENNSYLVANIA WATER & POWER CO.
HOLTWOOD HYDRO & STEAM DEVELOPMENT
SUBSTITUTE PLANT
PLAN & SECTIONS

Chas. T. Main, Inc.
ARCHITECTS-ENGINEERS
BOSTON, MASS. U. S. A.

In Charge-			
Drawn	Traced	Checked	
			Scale- Noted
			Date- Apr.6.1946

1589-1-2

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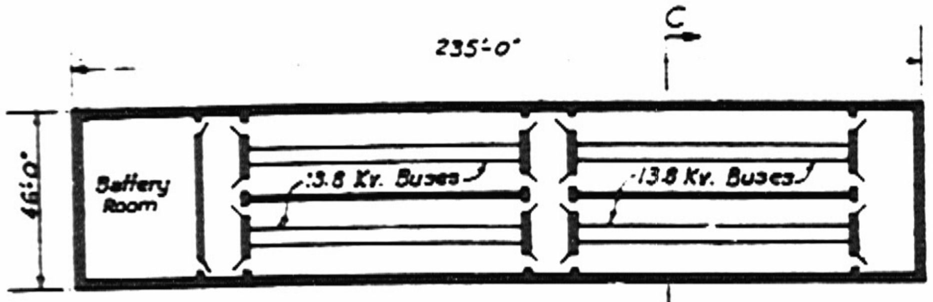

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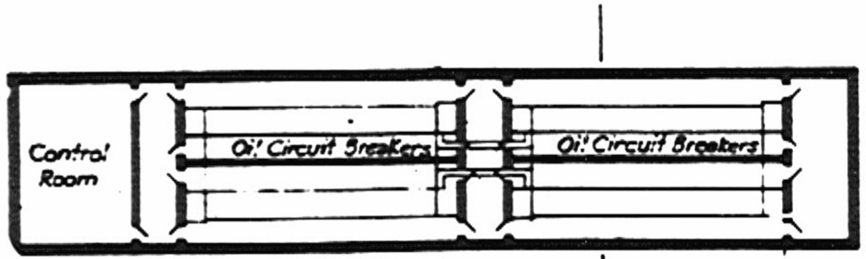

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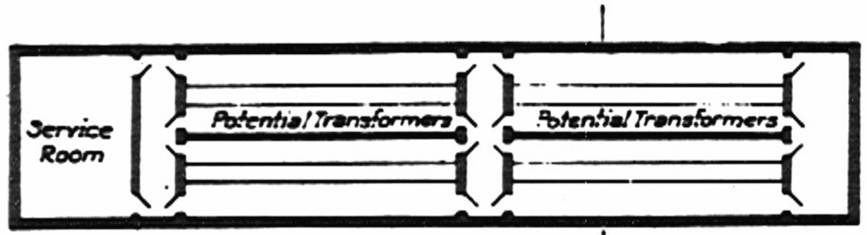
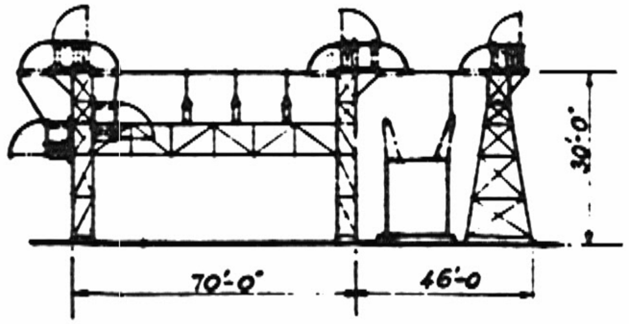


FIRST FLOOR PLAN

B



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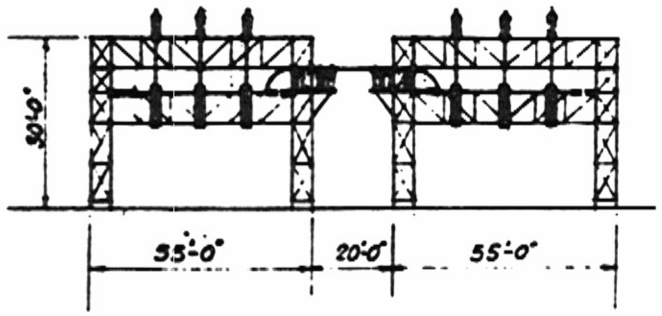

ELEVATION B-B
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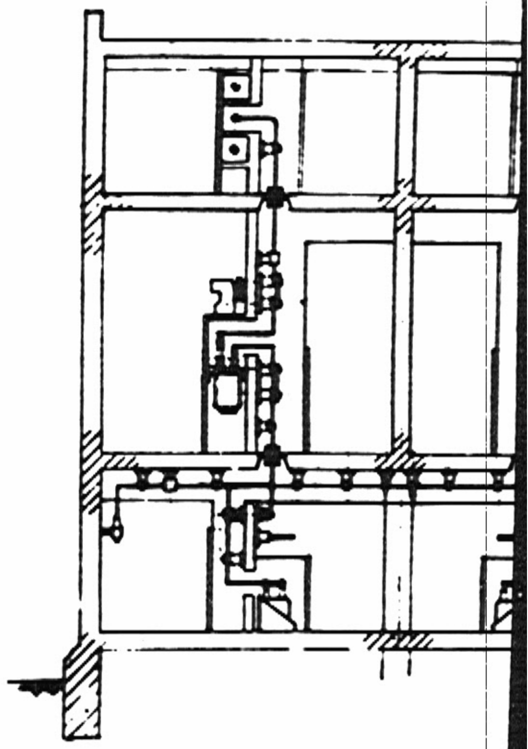

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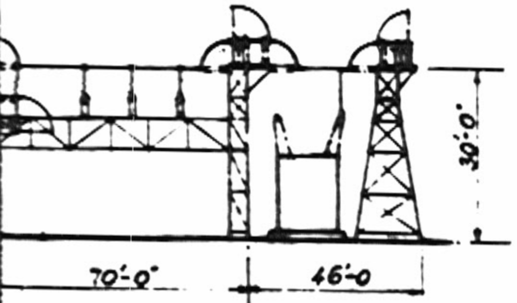

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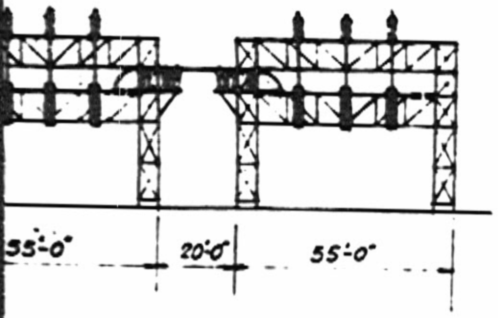

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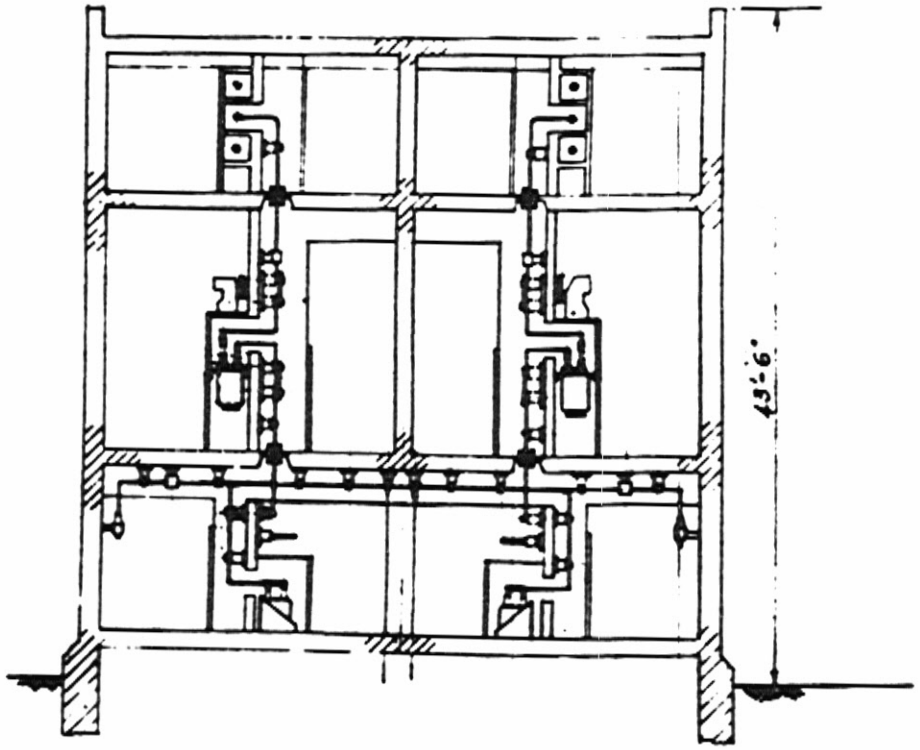
Scale 1"-30'



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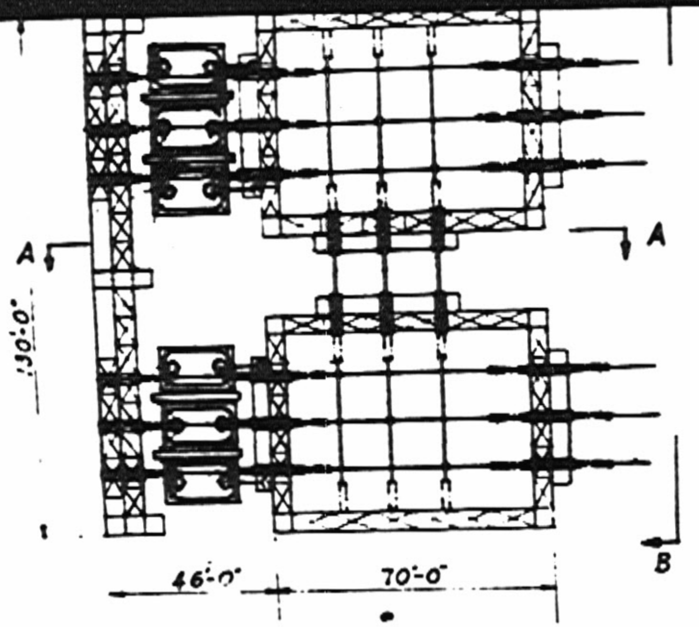
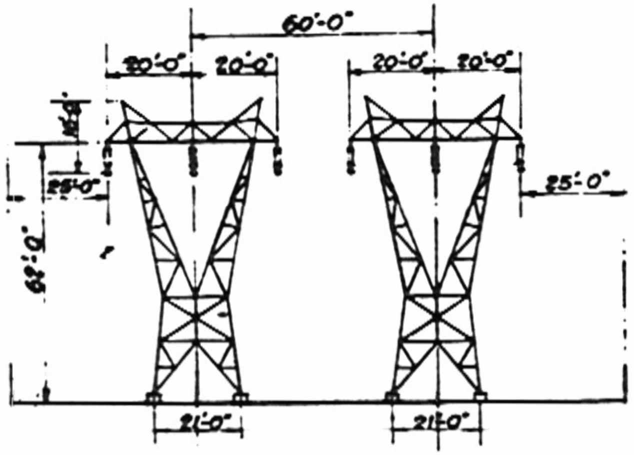
Scale $\frac{1}{8}$" - 1'-0"



SWITCHYARD PLAN
HIGHLANDTOWN SUBSTATION
Scale 1" - 30'



TRANSMISSION LINE
TYPICAL ARRANGEMENT
Scale 1" - 30'

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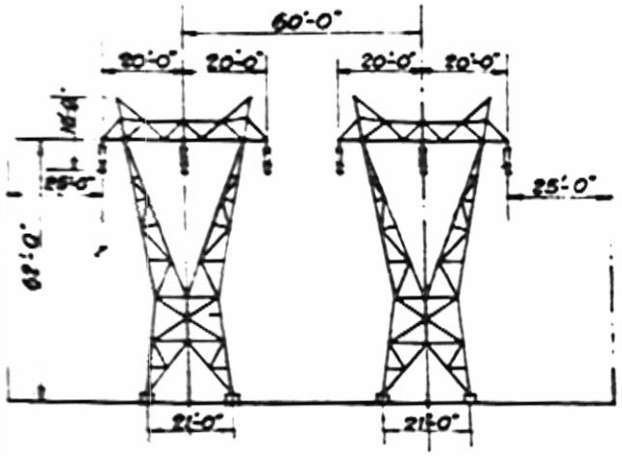
SECTION C-C
Scale 1/8" = 1'-0"

NOTE -

High tension switching structure at Holtwood similar to Highlandtown except mounted on power-house roof with transformers on intake deck.



TRANSMISSION LINE
TYPICAL ARRANGEMENT
Scale 1" = 30'

REVISIONS

PENNSYLVANIA WATER & POWER CO.
SUSQUEHANNA TRANSMISSION CO. OF MD.
HOLTWOOD-~~HIGHLANDTOWN TRANSMISSION~~
SUBSTITUTE PLANT

CHAS. T. MAIN INC.
ARCHITECTS - ENGINEERS
BOSTON, MASS. U.S.A.

In Charge -
Drawn: F.A.C.
Traced:
Checked:
Scale - AS NOTED
Date - 4-3-46
1589-1-3

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EXHIBIT No. 33.

[22285]

BEFORE THE FEDERAL POWER COMMISSION

In the Matter of

Pennsylvania Water & Power Company and
Susquehanna Transmission Company of Maryland

IT-5915

TESTIMONY AND EXHIBITS OF DR. H. B. DORAU RELATING TO THE SUPPLY OF MONEY AND THE VALUE OF THE DOLLAR

Washington, D. C.
May 1, 1946.

[22286]

PROPOSED TESTIMONY OF H. B. DORAU

1–Q. Have you prepared an exhibit setting forth the the changes in the supply of money in the United States over the period of 1914-1946?

1–A. Yes, I prepared a tabulation and chart setting forth Deposits, Investments and Loans of All Banks, as well as Currency in Circulation and Gold Stocks in millions of dollars for the period 1914-1946.

2–Q. Will you briefly explain the meaning and significance of this exhibit?

2–A. The chart in this exhibit graphically sets forth the rise in total bank deposits, gold stocks and currency in circulation, 1914-1945 and the rise of loans from 1914 to 1929 and the subsequent decline of loans.

It can be readily and quickly seen that total deposits have gone through two periods of substantial increase since 1933. The first rise took place from 1933 to 1943, during which period total deposits rose from $36,919 million to $71,027 million. The second and even more rapid rise brought the total of the June 30, 1942 of $71,027 million to $137,688 million as of June 30, 1945.

3–Q. What is the meaning and significance of total deposits in dollars?

3–A. Total deposits in dollars measure the quantity of dollar money which the banks owe the depositors and which the depositors can withdraw from the banks and spend as they may choose, time deposits with notice, other deposits on demand. Total deposits measure the potential expressible money spending power of depositors. Deposit dollars are money and thus a major part of the money supply of the country. The increase in [22287] (page 2) deposits therefore measures, to a large extent, the increase in the supply of money in the United States.

4–Q. Are there other components of the money supply?

4–A. Yes, currency in circulation.

5–Q. Will you explain your exhibit in further detail?

5–A. With respect to currency in circulation, reference to the chart indicates a gradual increase until 1939 when a rapid rise began. From a level of $6,461 million as of June 30, 1938 the currency in circulation rose to $9,612 million in 1941, to $17,421 million in 1943 and to $26,746 million in 1945.

As of June 30, 1945 currency in circulation was more than eight times the amount of June 30, 1914, and more than four times the quantity as of June 30, 1938.

Gold stocks, because they are at least in theory the basis of our monetary standard of value, are also important. The gold stock of the country has increased from $1,699 million as of June 30, 1915 to $20,213 million as of 1945. The rapid increase in gold stock took place after 1933, since which date the rise has been five-fold.

In 1933 the total of deposit money and currency in circulation was $42,353 million, in 1945 the total of deposit money and currency was $164,667 million. or close to a four-fold increase.

The difference between total deposits and loans is also important. Loans represent the extent to which people are in debt to the banks as distinguished from deposits which reflect the extent to which banks are in debt to their depositors.

[22288] (page 3)

As of June 30, 1919, following the last previous war, the excess of deposits over loans may be seen by reference to the tabulation which is a part of this exhibit, to have been only $7,322 million ($32,012 million less $24,690 million). As of June

30, 1945 the excess of deposits over loans was $109,709 million, or fifteen (15) times the excess of deposits over loans in 1919.

6–Q. What is the economic significance of this substantial increase in the quantity of money for the determination of a fair return in utility regulation?

6–A. The money revolution in the United States since 1933 constitutes the largest monetary inflation in the history of the country. The increase in the number of dollars of money in the country since 1933, and even more strikingly since 1941, is without parallel and unprecedented in this country.

The dollar is the economic measure of investment and return, of sacrifice and income. The quantity of dollars is therefore one of the important factors determining the size of the dollar as a unit for the measurement of economic sacrifice and return.

The yardstick as a linear measure does not change in linear significance when the number of yardsticks is increased, but the size of the dollar as a standard of measurement tends to decrease with an increase in the effective quantity of spendable dollars.

A change in the magnitude of any unit of measurement and enumeration destroys its validity as a standard of measurement and [22289] (page 4) comparison.

Merely calling the changed unit of measurement by the same name does not make it the same. The summation of such changed units of measurement, simply because they continue to have the same label, is as invalid as adding pears, peaches, peas and persimmons. The accounting summation of unlike dollars does not measure the investment sacrifice.

If the mile as a unit of linear measurement should have changed in magnitude as the dollar has changed as a measure of sacrifice and gain, no sensible person would draw any conclusions from a comparison of ton-miles of railway service in 1907, 1917 and 1935. Before any informed person would believe that the ton-miles in 1917 exceeded the ton-miles in 1935, he would demand that such calculations be translated into an equated or equivalent number of ton-miles on the basis of the relative magnitude of the different length of the miles used.

Progress in every field of human endeavor has depended on the establishment of standard and comparable units of measurement. When the horsepower was the power of a horse instead of the energy equivalent of 550 foot-pounds per second, the enumeration of horsepowers was of limited accuracy and meaning.

When the foot was literally a "foot-length" instead of, as now 12 inches, linear measurement and comparison were uncertain and unreliable. It would be no more inappropriate to add nautical miles and land miles than to add 1907 dollars and 1917 dollars, but no respectable geographer would do so.

If the mile as well as the dollar had been redefined at 59 percent of its former magnitude in 1934, geographers and engineers would not make comparisons and enumerations without equating and adjusting for [22290] (Page 5) the differences in the actual comparative magnitude of the standard of measurement.

7–Q. Can the differences in the dollar as a unit of measurement of economic cost and income be equated so as to afford a reasonably comparable standard for the measurement of investment and return in utility regulation?

7–A. Yes, the variability of the dollar as a unit of economic measurement can be measured with reasonable accuracy so as to afford the basis for equating one size dollar with another. The size of the dollar is measured by the goods and services which it can buy. Money is but the medium of exchange and the dollar is the unit of measurement, but the dollar varies in its purchasing power, its exchangeability for goods and services, and thus in its size.

This variability of the dollar can be equated so that the dollars of different size can be *legitimately* added and expressed as the equivalent of a fixed and certain sum of any other size of dollar, just as the sum of nautical and land miles can be equated and expressed as either so many nautical miles or the equated number of land miles.

8–Q. Have you prepared an exhibit which sets forth the change in the yearly average size of the dollar over the period 1902-1945?

8–A. Yes, I have prepared a tabulation which sets forth the purchasing power change in the size of the dollar by years from 1902-1945 and a seven-year moving average from 1905.

Column 1 identifies the years from 1902-1945.

[22291] (page 6)

Column 2 records the wholesale price index as reported by the United States Department of Labor, Bureau of Labor Statistics, with the average for 1926 equal to an index of 100.

Column 3 translates the index of wholesale prices into the purchasing power of the dollar which is determined by calculating the reciprocal of the annual averages in Column 2, i. e., by dividing the index of wholesale prices into 100.

Column 4 records the total of the seven years of Column 3, i. e., the total of the years 1902-1908 for 1905, and for each succeeding seven-year group in the same way down to 1943, for which a five-year total is ascertained, and for 1944 for which year a three-year total is determined, and for 1945, for which a one-year total is taken.

Column 5 records the calculated seven-year moving average of Column 3 plotted on the fourth year center, except that for the year 1943 a five-year average is calculated and recorded, for 1944 a three-year average, and for 1945 a one-year average.

Column 6 records the translation of the seven-year moving average index of the purchasing power of the dollar to an index with 1945 as 100 for ease of comparison.

9–Q. Does the United States Department of Commerce calculate and report the changing purchasing power of the dollar?

9–A. Yes, in the Survey of Current Business.

10–Q. Does it use the same index of wholesale prices which you have used?

10–A. Yes, the Department of Commerce calculates the purchasing power of [22292] (page 7) the dollar as the reciprocal of the index of wholesale prices.

11–Q. Why did you use a seven-year moving average, except as noted?

11–A. The period of time from 1902-1945 is long enough to accommodate a seven-year average and a seven-year average satisfactorily eliminates minor and short-term changes which are more in the nature of fluctuations.

12–Q. Why did you use a five and three-year average for 1943 and 1944 and the one-year average for 1945?

12–A. In order to taper off the seven-year average and bring it down to the current time and date of 1945. This is satisfactory and justified since the trend during these years was in the same direction and accelerating. Moreover, since the continuing trend in 1945 and 1946 is strongly in the direction of higher prices and a cheaper dollar, the result is conservative.

13–Q. What, in brief, does the index developed, in Column 6 of this exhibit, disclose as to the changing economic size of the dollar?

13–A. Treating the 1945 dollar as 100, or par, the dollar of 1905 was 73.2 percent larger. The average size of the dollar was larger than in 1945 in every year down to 1918. From 1918 to 1923 it was slightly and temporarily below 100, but since 1922 the purchasing power of the dollar has been above 1945 by as much as 42.3 percent in 1934 and on the average for the period 23 percent above 1945.

From 1905 to 1918 the purchasing power of the dollar was on the [22293] (page 8) average 50 percent above 1945.

From 1918 to 1923 it was on the average 5 percent below 1945.

For the entire period 1905-1945 the average purchasing power of the dollar on the basis calculated in Column 6, was 28 percent above 1945.

14–Q. Do you find in these evidences of the changing magnitude of the dollar any basis for the conclusion that the changes in the economic size of the dollar can be disregarded because the fluctuations are compensatory?

14–A. No. There is no evidence to support such an assertion in this exhibit or anywhere. I have just pointed out that the average of the entire period is 28 percent above 1945 and that in every year except five during a 44-year period the purchasing power of the dollar was above 1945. My use of a seven-year moving average is proper treatment of mere fluctuations in the short term and even if in the long term there were compensations, changing investments and investors would make the *assumption* of a constant dollar inequitable.

The long term trend, however, is not and has not been compensatory. The price level has been rising since 1897 and the dollar reciprocally declining in size. The trend continues. Forces and factors justifying the expectation that the dollar will continue to shrink in size are clearly in evidence. Among the more obvious of these factors are the unparalleled quantity of money, the rate of spending, the size of the public debt, and the new and high levels of wages.

15–Q. Has the dollar been legally re-defined during the period covered by your exhibit?

[22294] (page 9)

15–A. Yes, before January 31, 1934 the "dollar" was the name for 23.22 grains of fine gold; after January 31, 1934 the name "dollar" was used to mean 13.714 grains of fine gold. The legal post-1934 dollar is only 59 percent the size of the pre-1934 dollar. The dollar has been changed legally as well as economically, but the name remains the same, and so bookkeepers add and subtract these different dollars without distinction.

16–Q. Has the distinction between the calculation of economic sacrifice and return in nominal and actually comparable dollars been recognized in other economic areas?

16–A. Yes. In the field of wage determination and administration the distinction between nominal dollar wages and real wages is fully recognized and well understood by wage earners and others.

17–Q. What is the economic meaning of the term investment?

17–A. The investment process consists of converting liquid or alternatively applicable economic resources into indirect goods capable of income production. Investment involves the sacrifice of alternative goods and the alternative goods given up measure the investment.

An investment may be made through the medium of money (as is most common in our day) or by direct investment of labor, risk-taking and the cost of waiting or postponement of income to the future. The investment in any economic undertaking may and commonly does consist of both money investment and direct investment. In any case the investment is measured by the sacrifice made to produce a future [22295] (page 10) income, whether accounted for by bookkeeping or not, and whether in the form of money expenditures or direct sacrifices made without the intervention of the medium of exchange money.

18–Q. Assuming the *entire* investment of two enterprises to be reflected by the same number of accounted for dollars, does it follow that the investment in the two enterprises is the same?

18–A. No, it is the same only in the number of nominal dollars. If those dollars are not of equal size and economic significance, the investment sacrifice is not the same. If one was in 1918 dollars and the other in 1905 dollars, the actual investment would (as measured by the index of dollar purchasing power in Column 6 of my exhibit) be 73 percent greater in 1905 dollars than the investment of the same number of accounted for 1918 dollars.

A larger number of small dollars may actually constitute a smaller investment than a smaller number of larger dollars.

19–Q. What is the economic meaning of the investment standard for utility rate-making?

19–A. The investment standard proposes that the investor receive a fair return on the dollars (or dollar equivalent) which he gave up and invested, i. e., on the total sacrifice made. It is a sacrifice standard as distinguished from a value standard and cannot be fairly construed to mean the sacrifice of an equal number of other dollars since they would not measure the investment sacrifice made.

[22296] (page 11)

20–Q. Does the sum of the nominal dollars invested (in money and/or goods and services) measure the investment actually made, if made in dollars of different economic size and purchasing power?

20–A. Obviously not. An investment made by the sacrifice of dollars having a purchasing power of 100 would be equal to the investment of twice the same number of 50-cent dollars. It seems almost too simple to have to explain that an investment sacrifice of 1,000,000 hundred-cent dollars is the same as an investment of 2,000,000 fifty-cent dollars.

21–Q. Is it possible to express the nominal investment in an enterprise made in various kinds of dollars in terms of an equivalent number of dollars of equal size and equal investment significance?

21–A. Yes, very easily. The relative size and investment significance of the dollars sacrificed each year can be determined by reference to an index of purchasing power. By weighting the dollars invested each year by their purchasing power an average purchasing power dollar related to any desired base can be obtained and the investment in terms of any weight of dollar determined. In this way the constant dollar equivalent of the investment of heterogeneous dollars of different vintage and size can be determined.

22–Q. Have you applied this method to the dollars invested in electric plant in service of Pennsylvania Water & Power Company including Susquehanna Transmission Company to determine the investment sacrifice of 1945 dollars?

[22297] (page 12)

22–A. Yes, I requested that the Company provide me with a distribution of the $36,414,232 of electric plant in service (before adjustments and construction work in progress and property held for future use) by years according to year of origin of the dollars of electric plant in service December 31, 1945.

The Company provided the desired information and I have used the same in the first numerical column of a two-page tabulation and chart which I have prepared.

23–Q. Will you explain this tabulation and chart?

23–A. Column 1 of the tabulation identifies the years from 1905-1945. Column 2 records the dollars of investment in electric plant in service December 31, 1945 according to the year of origin of the investment.

Column 3 repeats the moving average purchasing power of the dollar as previously developed with 1945 as an index of 100.

Column 4 of this tabulation expresses the equivalent number of 1945 dollars which were invested in each year in electric plant and which remained in service on December 31, 1945.

The original investment in electric plant recorded opposite each year for the period 1905-1945 in Column 4 is determined by multiplying the annual investment of each year of various size dollars by the factor in Column 3 which measures the relationship of the purchasing power of that year's dollars to 1945 dollars. To illustrate, in 1905 2,135,006 dollars were invested which represented electric plant in service as of December 31, 1945. The dollar of 1905 had 1.732 times the purchasing power of the 1945 dollar. Multiplying 2,135,006 by 1.732 results in the number of equivalent 1945 dollars in the amount [22298] (page 13) of 3,697,830.

By the same method the equivalent number of 1945 dollars was determined for the investment of each year which remained in service as of December 31, 1945.

The number of 1945 dollars which represent the equivalent investment sacrifice of the dollars recorded in Column 2 is found by adding the figures in Column 4 to obtain a total.

It will be seen that the 50,091,106 1945 dollars are the equivalent investment sacrifice of the 36,414,232 nominal dollars of various vintage and diverse size.

The accompanying chart sets forth the method and result graphically.

The purchasing power of the dollar of each year (based on the seven-year moving average) is indicated by a bar in size relative to the purchasing power of the dollar of 1945 as 100 cents.

Examination of this chart indicates that the size of the dollar of 1905-1918 was consistently and substantially in excess of the economic size of the dollar of 1945; on the average it represented a 50 percent greater investment.

These were the years in which a substantial part of the investment remaining in service December 31, 1945 originated, as may be observed by reference to the first numerical line below the graphic section of the chart, and the years 1905, 1906, 1907 and 1910 in particular. Other years of large investment were 1923, 1924, and 1925 when the purchasing power of the dollar was not much above what it is in 1945. The large investments of the years 1931, 1934 and 1937 were, however, made in dollars of substantially larger purchasing power and investment sacrifice than 1945 dollars.

[22299] (page 14)

The dotted horizontal line affords a convenient reference for comparison of the investment sacrifice of each year with 1945. It will be readily seen that except for the years 1919, 1920, 1921 and 1922, investments of all years are in dollars representing greater investment sacrifice than 1945 dollars.

The second numerical line records the number of equivalent 1945 dollars invested in each year, the third numerical line cumulates the annual investments in nominal dollars which adds up to $36,414 thousand in 1945.

The fourth numerical line cumulates the annual investment in 1945 dollars found in the second line. It will be seen that in each year the cumulative total in 1945 dollars exceeds by a substantial margin, the cumulation of nominal dollars invested up to that year and in service December 31, 1945.

Relating the cumulative 1945 dollars, as of 1945, to the nominal dollars of the same year, cumulated, shows that the cumulative investment of 1945 dollars exceeded the cumulation of nominal dollars in 1945 by 37.6 percent.

The cumulative total of $50,093 thousand in the fourth line under the year 1945 fairly measures and expresses, in my opinion, the investment of electric plant in service on December 31, 1945 in 1945 dollars.

24–Q. Is this figure of $50,093 thousand the cost of reproduction of the electric plant in service as of December 31, 1945?

24–A. No, it is not. I had no intention of reflecting cost of reproduction which is an entirely different matter and this exhibit does not reflect cost of reproduction. This calculation reflects no appreciation [22300] (page 15) in *value* and the figure found does not measure the *value* of electric plant. This determination sets forth the number of 1945 dollars which measure the investment sacrifice of the dollars which investors actually gave up. I have merely calculated the number of dollars which would now command the same amount of goods in exchange as the dollars investment would have commanded at the time of their investment. Any small number of dollars would mean a sacrifice on the part of investors.

Reflecting the changed size of the dollar only operates to keep the actual investment quoted in terms of the same amount of *real* sacrifice of goods and services. It is a method of avoiding arbitrary devaluation of the actual sacrifice and in no way attempts to reflect revaluation, appreciation or present value. It is merely a way of avoiding arbitrary economic write-down of the basis of return. It only corrects for the bookkeeping fiction that all dollars are alike and measure the same amount of investment.

25–Q. Will you briefly explain the difference between your determination in this exhibit and cost of reproduction?

25–A. Cost of reproduction is evidence of present value and is determined by applying the present cost of the components of property to an inventory of the property components. The difference is that the determination of the equivalent 1945 dollar investment does not attempt or presume to reflect any *actual* increases in value; it reflects only the sacrifice made by the investment as measured by the size of the present day dollars in which size dollar the return is paid.

[22301] (page 16)

The price of goods can increase for two reasons, (1) an increase in the scarcity of goods, and (2) a decrease in the economic size of the dollar. This exhibit does not purport to reflect any actual increase in value, it only measures the investment made in a single size dollar of the purchasing power of 1945. It attempts only to establish what number of 1945 dollars measure the accounted for investment sacrifice made for the plant in use December 31, 1945.

26–Q. Is your determination in this exhibit the same as trended original cost?

26–A. No, it is not. Trending original cost involves the use of the current prices of commodities and labor which enter into the construction of a plant. Trended original cost would also reflect actual increases in value. It would reflect the extent to which components of plant had increased (or decreased) in scarcity as well as that increase (or decrease) in price which was nothing but the reflection of changes in the size of the dollar.

There is no reason or excuse, in my opinion, for identifying or confusing a calculation of the fair original cost or investment in homogeneous current dollars with either cost of reproduction or trended original cost. They are not the same and I have not pretended that they are the same.

27–Q. In your opinion is the fair original cost in homogeneous current dollars a useful fact in the determination of a fair return under regulation?

[22302] (page 17)

27–A. Yes, it is useful evidence for the determination of a fair return.

28–Q. Is it, in your opinion, useful for the determination of the rate base or the fair rate of return?

28–A. The fact as to the fair original cost or investment in homogeneous current dollars is alternatively useful for both purposes. It is useful evidence as to a fair rate base in terms of current dollars and useful for the calculation of a fair rate of return if applied to a rate base not expressed in dollars of current purchasing power. Unless the decreased significance of the dollar as a unit of economic measurement is recognized in either the rate base or the rate of return the *real* income on the investment will be arbitrarily decreased. In the instance of the Pennsylvania Water & Power Company, as far as electric plant alone is concerned, the real income would be decreased by the complement of the percentage relationship of $36,414 thousand to $50,093 thousand (72.7) or 27.3 percent.

Recognition of the fact that the actual investment made and remaining in service is measured and measurable by 50,093 thousand 1945 dollars, the size of dollar in which the return is paid maintains the economic parity of the investment.

[22307]

PENNSYLVANIA WATER & POWER COMPANY

AND

SUSQUEHANNA TRANSMISSION COMPANY OF MARYLAND

ORIGINAL COST OF ELECTRIC PLANT IN PRESENT DOLLARS THE PURCHASING POWER OF THE DOLLAR AS MEASURED BY WHOLESALE PRICES AS REFLECTED BY A SEVEN-YEAR MOVING AVERAGE

1905-1945

Year	Original Investment in Electric Plant [a] (Nominal Dollars)	Purchasing Power of the Dollar [b] (1945 = 100)	Original Investment in Electric Plant (1945 Dollars)
1905	2,135,006	173.2¢	3,697,830
1906	2,150,746	169.8	3,651,967
1907	3,212,023	166.0	5,331,958
1908	680,006	163.9	1,114,530
1909	975,871	160.6	1,567,249
1910	3,025,472	157.9	4,777,220
1911	598,307	156.9	938,744
1912	598,307	154.6	924,983
1913	804,371	149.9	1,205,752
1914	757,204	141.4	1,070,686
1915	35,927	129.5	46,526
1916	198,295	118.6	235,178

(a) Original cost of electric plant surviving as of December 31, 1945—Data supplied by Company.

(b) Measured by wholesale prices as reflected by a seven-year moving average (B. L. S. Index).

Year	Original Investment in Electric Plant [a] (Nominal Dollars)	Purchasing Power of the Dollar [b] (1945 = 100)	Original Investment in Electric Plant (1945 Dollars)
1917	281,514	106.8¢	300,657
1918	97,541	100.0	97,541
1919	107,359	93.9	100,810
1920	84,486	91.2	77,051
1921	135,666	93.8	127,255
1922	84,841	96.8	82,126
1923	2,663,258	101.1	2,692,554
1924	2,535,879	107.1	2,715,926
1925	2,489,580	107.3	2,671,319
1926	400,612	107.5	430,658
1927	402,277	109.9	442,102
1928	394,249	115.2	454,175
1929	347,892	124.0	431,386
1930	477,712	131.7	629,147
1931	2,282,093	136.1	3,105,929
1932	536,738	139.4	748,213
1933	146,048	142.2	207,680
1934	1,468,095	142.3	2,089,099
1935	714,408	140.8	1,005,886
1936	347,617	137.0	476,235
1937	2,679,646	133.3	3,571,968
1938	618,999	130.5	807,794
1939	252,136	126.9	319,961
1940	237,875	122.9	292,348
1941	375,231	119.9	449,902
1942	757,974	114.9	870,912
1943	86,984	106.6	92,725
1944	75,666	101.5	76,801
1945	160,323	100.0	160,323
Totals	36,414,232		50,091,106

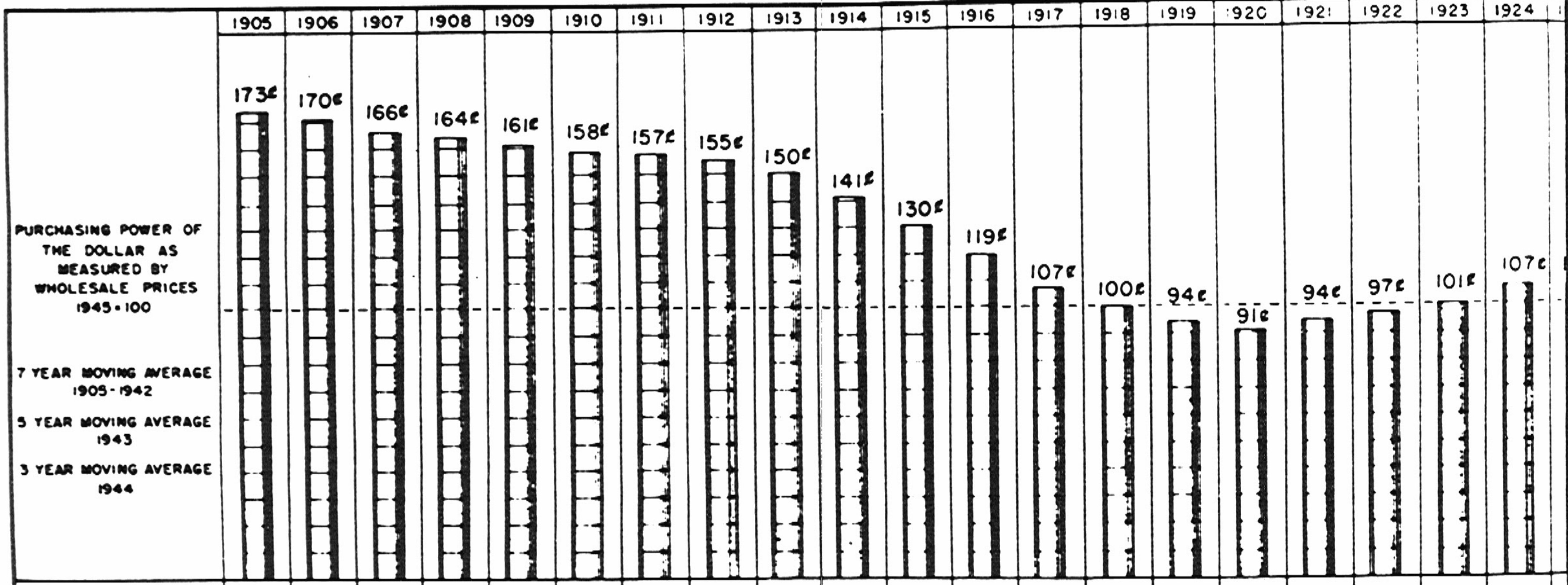
[22308] (page 2)

PENNSYLVANIA WATER & PO

ORIGINAL COST OF ELECTRIC PLAN

THE PURCHASING POWER OF THE DOLLAR AS MEASURED BY WHOLESALE P

1905-1945



	1905	1906	1907	1908	1909	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924	
ORIGINAL INVESTMENT OF NOMINAL DOLLARS (ANNUAL)	2,135	2,151	3,212	680	976	3,025	598	598	804	757	36	198	281	98	107	84	136	85	2,663	2,536	
ORIGINAL INVESTMENT OF 1945 DOLLARS (ANNUAL)	3,698	3,652	5,332	1,115	1,567	4,776	938	925	1,205	1,070	47	235	301	98	100	77	128	82	2,692	2,716	
ORIGINAL INVESTMENT OF NOMINAL DOLLARS (CUMULATIVE)	2,135	4,286	7,498	8,178	9,154	12,179	12,777	13,376	14,180	14,937	14,973	15,172	15,453	15,551	15,658	15,742	15,878	15,963	18,626	21,162	2
ORIGINAL INVESTMENT OF 1945 DOLLARS (CUMULATIVE)	3,698	7,350	12,682	13,797	15,364	20,140	21,078	22,003	23,208	24,278	24,325	24,560	24,861	24,959	25,059	25,136	25,264	25,346	28,038	30,754	3

(ORIGINAL INVESTMENT IN THOUSANDS O

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WER COMPANY

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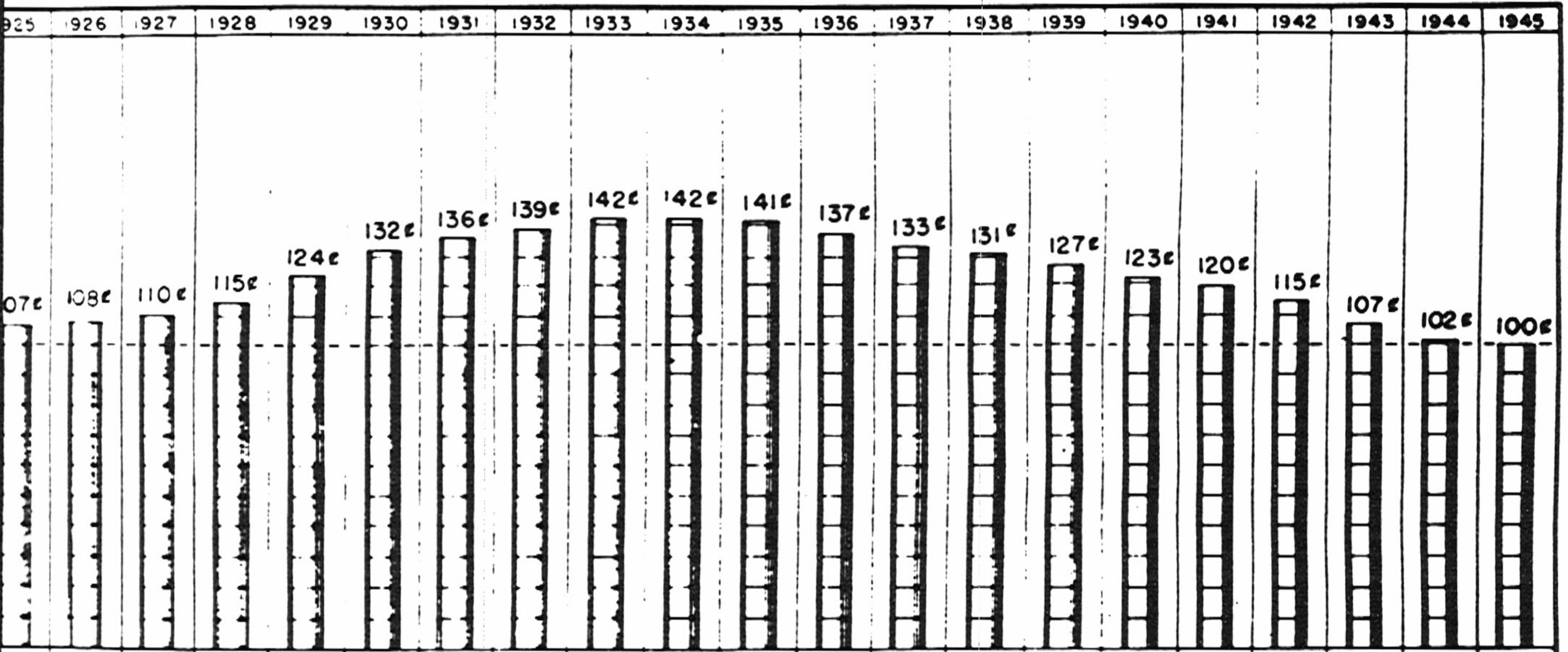
RICES AS REFLECTED BY A SEVEN-YEAR MOVING AVERAGE



925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945
2,490	401	402	394	348	477	2,282	537	146	1,468	714	347	2,680	619	252	238	375	758	87	76	160
2,672	431	442	454	432	630	3,106	749	208	2,089	1,005	477	3,572	808	320	293	450	871	93	77	160
3,652	24,052	24,455	24,849	25,197	25,674	27,956	28,493	28,639	30,107	30,822	31,169	33,849	34,468	34,720	34,958	35,333	36,091	36,178	36,254	36,414
3,426	33,857	34,299	34,753	35,185	35,815	38,921	39,670	39,878	41,967	42,972	43,449	47,021	47,829	48,149	48,442	48,892	49,763	49,856	49,933	50,093

DOLLARS)

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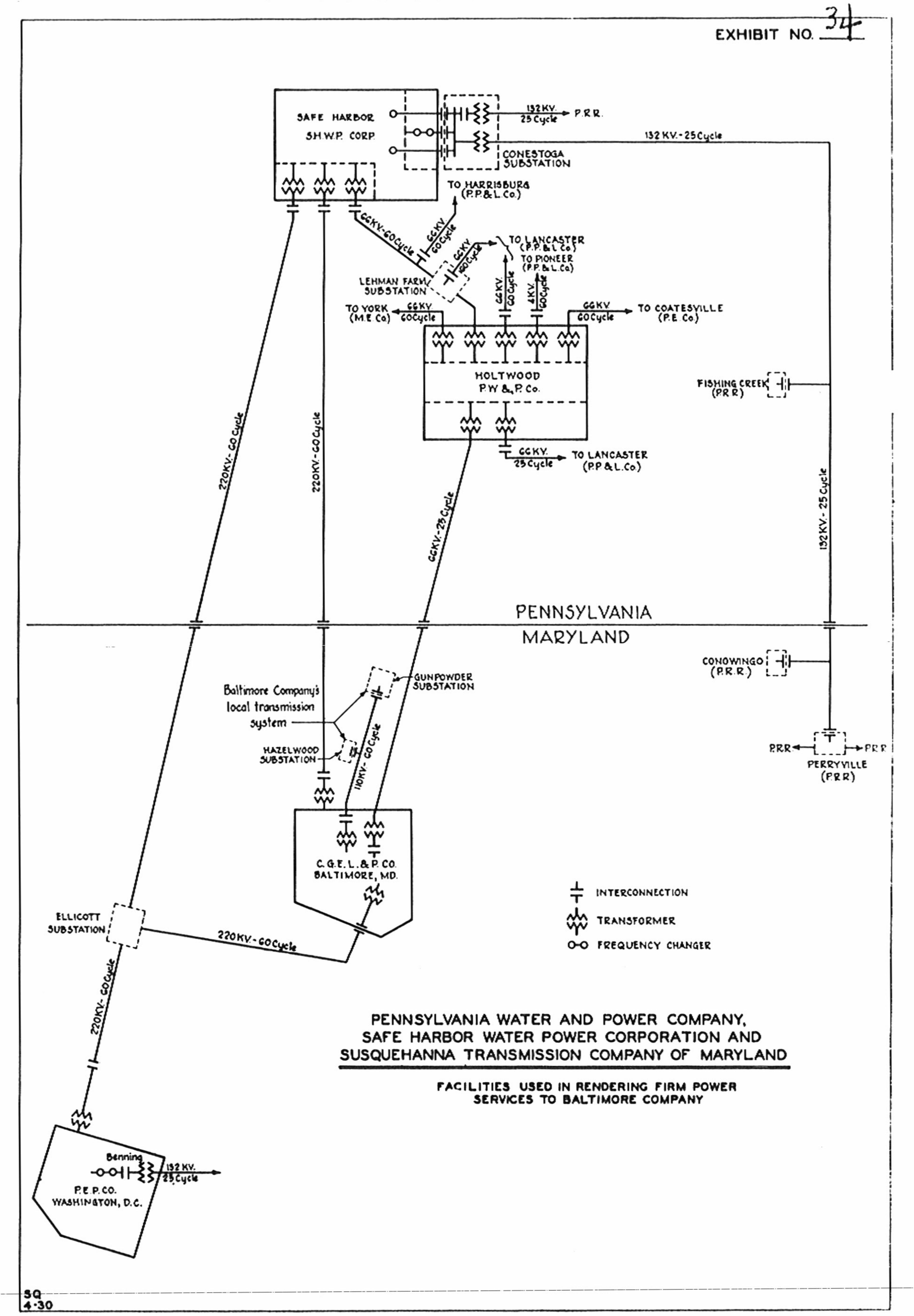

PENNSYLVANIA WATER AND POWER COMPANY,
SAFE HARBOR WATER POWER CORPORATION AND
SUSQUEHANNA TRANSMISSION COMPANY OF MARYLAND

FACILITIES USED IN RENDERING FIRM POWER
SERVICES TO BALTIMORE COMPANY

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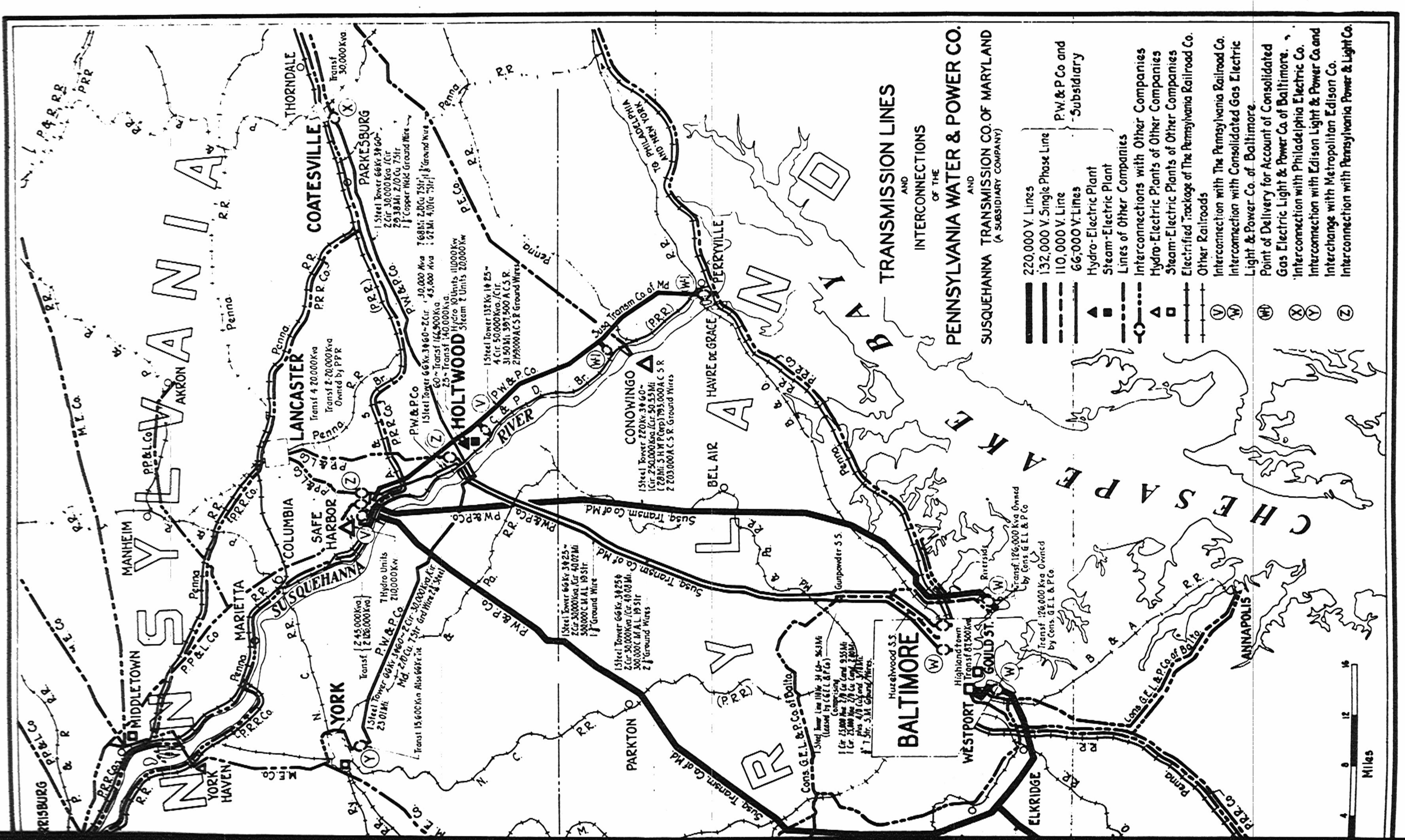

TRANSMISSION LINES AND INTERCONNECTIONS OF THE PENNSYLVANIA WATER & POWER CO. AND SUSQUEHANNA TRANSMISSION CO. OF MARYLAND (A SUBSIDIARY COMPANY)

220,000 V. Lines
132,000 V. Single Phase Line
110,000 V. Line
66,000 V. Lines
P.W.& P Co and Subsidiary
Hydro-Electric Plant
Steam-Electric Plant
Lines of Other Companies
Interconnections with Other Companies
Hydro-Electric Plants of Other Companies
Steam-Electric Plants of Other Companies
Electrified Trackage of The Pennsylvania Railroad Co.
Other Railroads
V W Interconnection with The Pennsylvania Railroad Co.
Interconnection with Consolidated Gas Electric Light & Power Co. of Baltimore
WI Point of Delivery for Account of Consolidated Gas Electric Light & Power Co. of Baltimore.
X Interconnection with Philadelphia Electric Co.
Y Interconnection with Edison Light & Power Co. and
Interchange with Metropolitan Edison Co.
Z Interconnection with Pennsylvania Power & Light Co.
PENNSYLVANIA
MARYLAND
CHESAPEAKE BAY
SUSQUEHANNA RIVER
HARRISBURG
MIDDLETOWN
YORK HAVEN
MANHEIM
AKRON
LANCASTER
COLUMBIA
MARIETTA
SAFE HARBOR
YORK
HOLTWOOD
CONOWINGO
COATESVILLE
THORNDALE
PARKESBURG
PERRYVILLE
HAVRE DE GRACE
BEL AIR
PARKTON
BALTIMORE
GOULD ST.
WESTPORT
ELKRIDGE
ANNAPOLIS
Riverside
Gunpowder S.S.
Huntington S.S.
Highland town
TO PHILADELPHIA AND NEW YORK
Susq. Transm. Co. of Md.
P.W.& P.Co.
P.R.R. Co.
P.P.& L. Co.
M.E. Co.
Cons. G.E.L.& P. Co. of Balto.
Transf. 30,000 Kva
Transf. 126,000 Kva Owned by Cons. G.E.L. & P. Co.
7 Hydro Units 210,000 Kw
Miles

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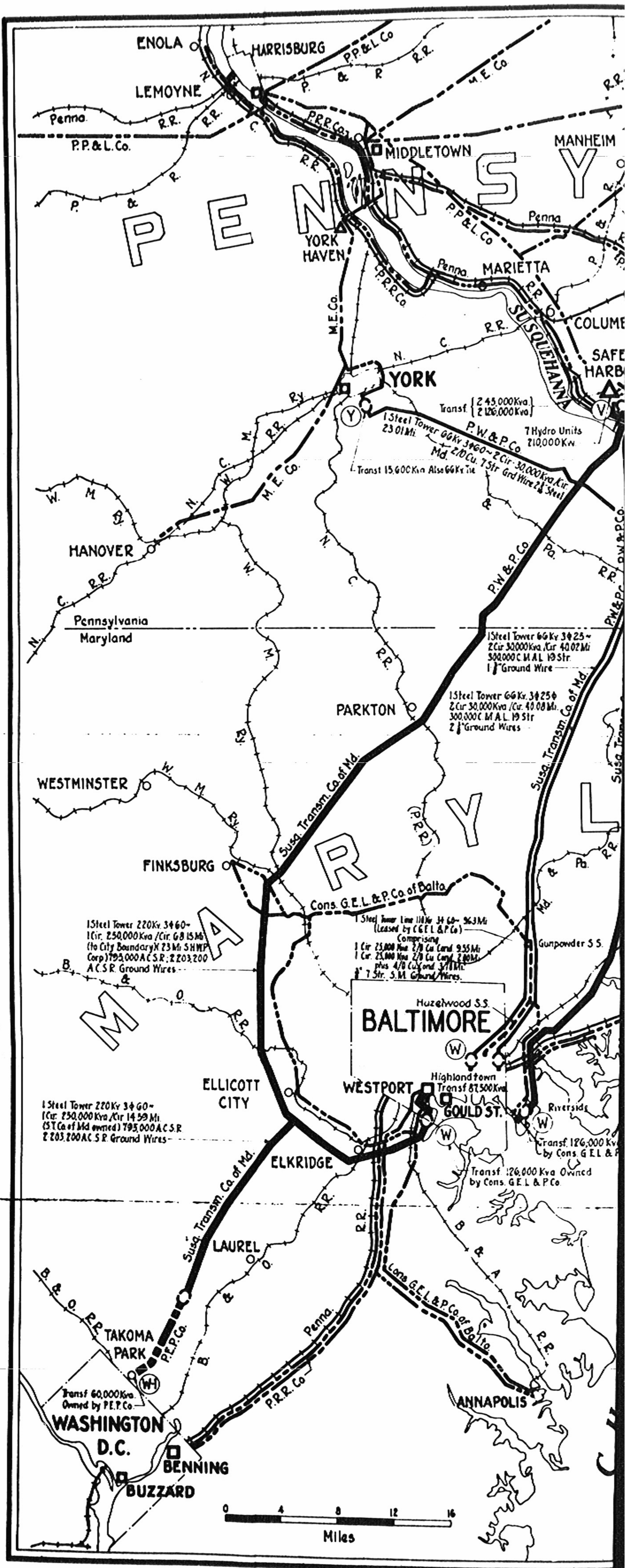
ENOLA
HARRISBURG
LEMOYNE
MIDDLETOWN
MANHEIM
YORK HAVEN
MARIETTA
COLUMB
SAFE HARB
SUSQUEHANNA
YORK
HANOVER
PARKTON
WESTMINSTER
FINKSBURG
ELLICOTT CITY
ELKRIDGE
WESTPORT
GOULD ST.
BALTIMORE
Huzelwood S.S.
Highlandtown Transf 87,500Kva
Riverside
Gunpowder S.S.
LAUREL
ANNAPOLIS
TAKOMA PARK
WASHINGTON D.C.
BENNING
BUZZARD
P E N N S Y
M A R Y L
Pennsylvania
Maryland
P.P.& L. Co.
P. & R. R.R.
Penna. R.R.
P.R.R. Co.
M.E. Co.
N. C. R.R.
W. M. Ry.
B. & O. R.R.
B. & A. R.R.
(P.R.R.)
Md. & Pa. R.R.
P.W. & P. Co.
Susq. Transm. Co. of Md.
Cons. G.E.L. & P. Co. of Balto.
P.E.P. Co.
Transf. {2 45,000 Kva. / 2 126,000 Kva}
7 Hydro Units 210,000 Kw.
1 Steel Tower 23.01 Mi.
1 Steel Tower 66 Kv 3Φ 60~ 2 Cir. 30,000 Kva /Cir. 2/0 Cu. 7 Str. Grd Wire 2⅜" Steel
Md.
Transf 15,600 Kva Also 66 Kv Tie
1 Steel Tower 66 Kv. 3Φ 25~ 2 Cir. 30,000 Kva. /Cir. 40.02 Mi 300,000 C.M. A.L. 19 Str. 1 ⅜" Ground Wire
1 Steel Tower 66 Kv. 3Φ 25Φ 2 Cir. 30,000 Kva /Cir. 40.08 Mi. 300,000 C.M. A.L. 19 Str 2 ⅜" Ground Wires
1 Steel Tower 220 Kv. 3Φ 60~ 1 Cir. 250,000 Kva /Cir. 68.15 Mi (to City Boundary X 23 Mi S.H.W.P. Corp.) 795,000 A.C.S.R.; 2 203,200 A.C.S.R. Ground Wires
1 Steel Tower Line 110 Kv 3Φ 60~ 9.63 Mi (Leased by C.G.E.L.&P.Co.) Comprising 1 Cir. 25,000 Kva 2/0 Cu. Cond. 9.55 Mi 1 Cir. 25,000 Kva 2/0 Cu. Cond. 2.80 Mi plus 4/0 Cu. Cond. 3.70 Mi. ⅜" 7 Str. S.M. Ground Wires.
1 Steel Tower 220 Kv 3Φ 60~ 1 Cir. 250,000 Kva /Cir 14.59 Mi. (S.T. Co. of Md owned) 795,000 A.C.S.R. 2 203,200 A.C.S.R. Ground Wires
Transf. 126,000 Kva by Cons. G.E.L. & P.
Transf. 126,000 Kva Owned by Cons. G.E.L. & P. Co.
Transf 60,000 Kva. Owned by P.E.P. Co.
Y
V
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WH
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Miles

EXHIBIT NO. 46.

[22374]

FEDERAL POWER COMMISSION

Docket No. IT-5915

Pennsylvania Water & Power Company

RATE OF RETURN STUDY

April 15, 1946

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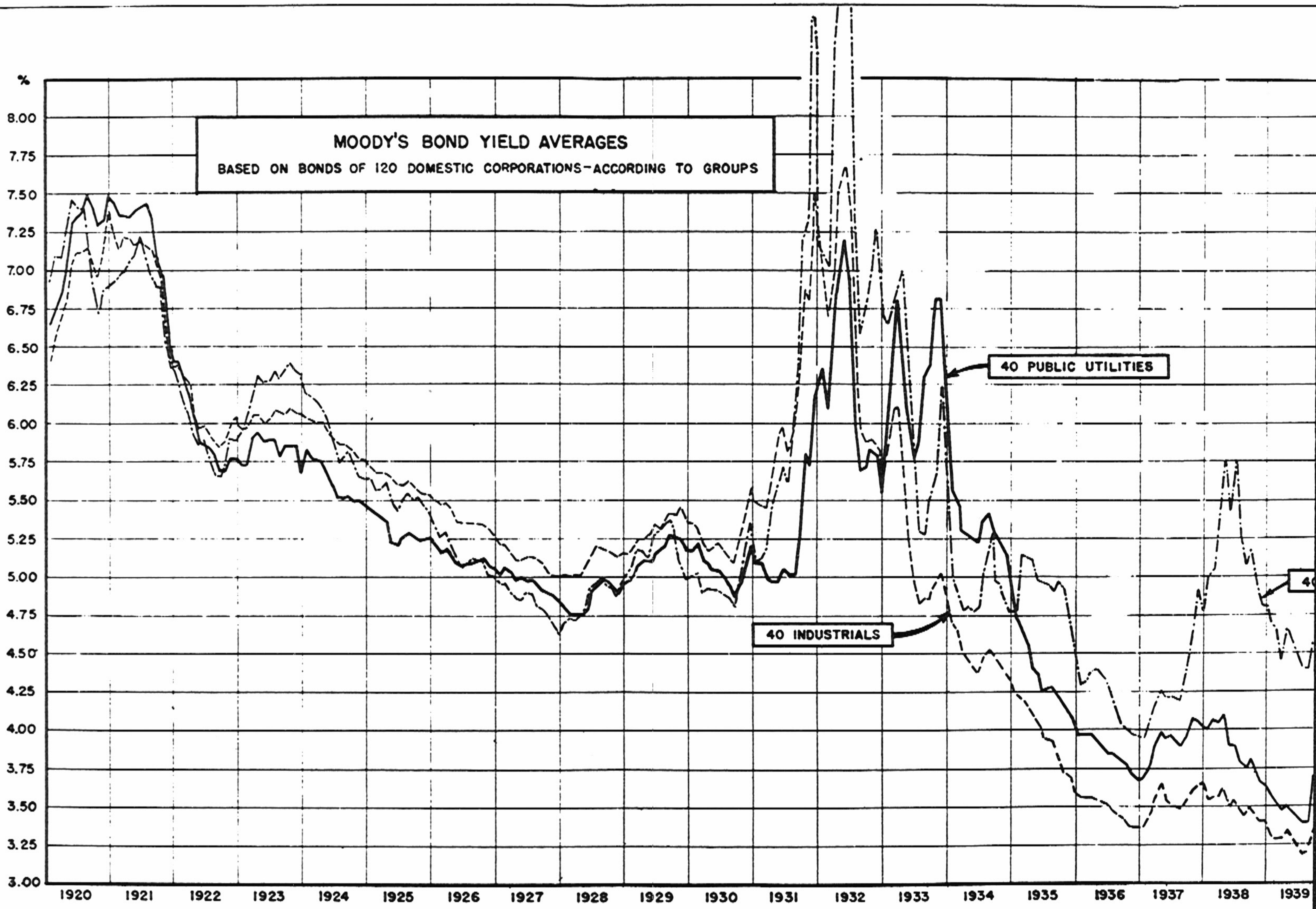
MOODY'S BOND YIELD AVERAGES
BASED ON BONDS OF 120 DOMESTIC CORPORATIONS–ACCORDING TO GROUPS
%
8.00
7.75
7.50
7.25
7.00
6.75
6.50
6.25
6.00
5.75
5.50
5.25
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3.25
3.00
40 PUBLIC UTILITIES
40 INDUSTRIALS
1920
1921
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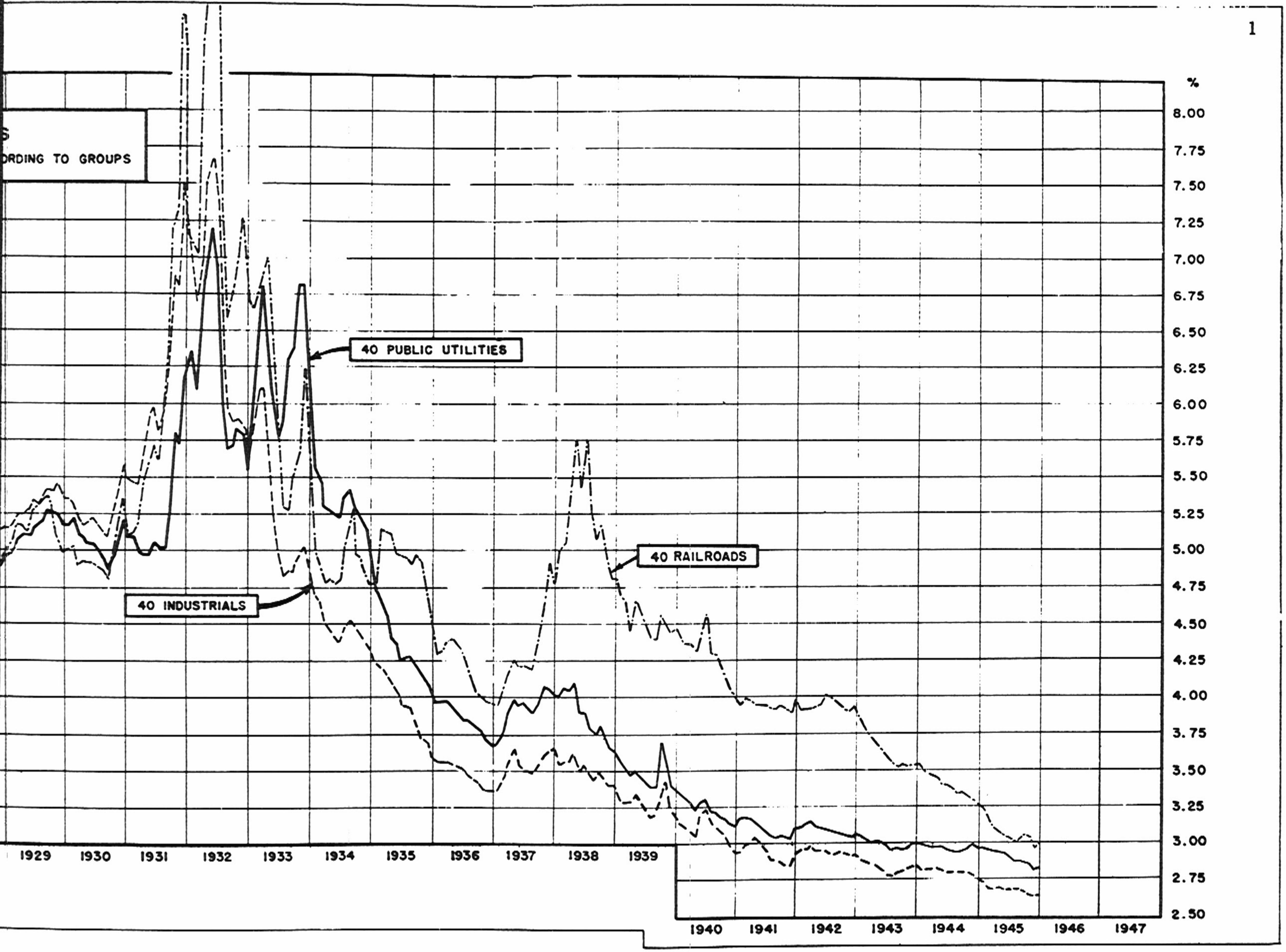

1
S
ORDING TO GROUPS
40 PUBLIC UTILITIES
40 RAILROADS
40 INDUSTRIALS
%
8.00
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7.25
7.00
6.75
6.50
6.25
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5.75
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5.25
5.00
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3.50
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3.00
2.75
2.50
1929
1930
1931
1932
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1934
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1938
1939
1940
1941
1942
1943
1944
1945
1946
1947

MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 120 DOMESTIC CORPORATIONS - ACCORDING TO GROUPS

40 INDUSTRIALS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	6.39	6.57	6.66	6.78	7.01	7.11	7.12	7.15	7.05	6.97	7.11	7.39	6.94
1921	7.27	7.14	7.22	7.21	7.16	7.19	7.17	7.13	7.06	6.93	6.61	6.36	7.04
1922	6.37	6.32	6.25	6.08	5.96	5.99	5.91	5.88	5.79	5.88	5.98	6.03	6.04
1923	5.95	5.97	6.04	6.05	5.99	6.01	6.07	6.07	6.05	6.10	6.07	6.06	6.04
1924	6.03	6.01	6.00	6.00	5.94	5.89	5.86	5.86	5.84	5.81	5.76	5.75	5.90
1925	5.72	5.66	5.68	5.66	5.64	5.59	5.59	5.61	5.59	5.54	5.54	5.53	5.61
1926	5.49	5.46	5.49	5.43	5.35	5.34	5.35	5.34	5.34	5.33	5.32	5.26	5.37
1927	5.21	5.20	5.15	5.10	5.10	5.11	5.12	5.10	5.07	5.02	5.01	5.00	5.10
1928	5.01	5.00	5.01	5.00	5.07	5.14	5.19	5.18	5.16	5.14	5.13	5.15	5.10
1929	5.14	5.18	5.24	5.24	5.27	5.34	5.32	5.34	5.41	5.40	5.45	5.35	5.31
1930	5.34	5.32	5.23	5.16	5.17	5.21	5.17	5.12	5.08	5.24	5.37	5.58	5.25
1931	5.41	5.40	5.44	5.65	5.89	5.97	5.79	5.93	6.33	6.86	6.79	7.51	6.08
1932	7.20	7.02	6.71	7.02	7.55	7.68	7.40	6.37	5.96	5.89	5.90	5.85	6.71
1933	5.66	5.83	6.10	6.10	5.60	5.21	4.95	4.84	4.87	4.87	4.99	5.03	5.34
1934	4.87	4.73	4.65	4.53	4.47	4.41	4.39	4.47	4.52	4.47	4.40	4.37	4.52
1935	4.31	4.24	4.20	4.18	4.11	4.07	3.95	3.94	3.91	3.83	3.73	3.71	4.02
1936	3.59	3.57	3.56	3.57	3.55	3.54	3.52	3.48	3.44	3.42	3.37	3.37	3.50
1937	3.36	3.46	3.55	3.65	3.55	3.51	3.50	3.47	3.55	3.63	3.65	3.66	3.55
1938	3.54	3.57	3.58	3.64	3.51	3.55	3.48	3.43	3.50	3.43	3.39	3.40	3.50
1939	3.31	3.29	3.29	3.35	3.30	3.23	3.17	3.21	3.57	3.43	3.25	3.21	3.30
1940	3.14	3.12	3.09	3.05	3.20	3.25	3.15	3.12	3.10	3.06	2.98	2.93	3.10
1941	2.96	3.00	3.02	3.06	3.02	2.96	2.90	2.90	2.88	2.85	2.85	2.94	2.95
1942	2.97	2.98	3.00	2.96	2.97	2.97	2.94	2.94	2.95	2.94	2.93	2.94	2.96
1943	2.90	2.88	2.87	2.87	2.86	2.84	2.80	2.79	2.82	2.82	2.85	2.86	2.85
1944	2.83	2.83	2.83	2.83	2.81	2.79	2.79	2.79	2.79	2.79	2.77	2.74	2.80
1945	2.73	2.69	2.68	2.69	2.68	2.68	2.68	2.68	2.67	2.65	2.64	2.64	2.68

Exhibit No. 46

MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 120 DOMESTIC CORPORATIONS - ACCORDING TO GROUPS

40 RAILROADS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	6.93	7.09	7.08	7.26	7.46	7.40	7.39	7.23	6.91	6.72	6.86	7.15	7.12
1921	6.91	6.97	6.99	7.06	7.08	7.22	7.10	6.97	6.90	6.88	6.52	6.37	6.91
1922	6.28	6.11	6.07	5.91	5.85	5.88	5.77	5.66	5.65	5.72	5.89	5.88	5.89
1923	5.94	6.00	6.16	6.30	6.26	6.27	6.33	6.28	6.33	6.39	6.34	6.31	6.24
1924	6.18	6.17	6.14	6.09	6.02	5.88	5.73	5.78	5.81	5.72	5.65	5.63	5.90
1925	5.63	5.56	5.57	5.60	5.48	5.41	5.48	5.54	5.50	5.52	5.46	5.42	5.51
1926	5.33	5.26	5.28	5.18	5.09	5.06	5.08	5.11	5.10	5.10	5.02	5.00	5.13
1927	4.96	4.95	4.90	4.86	4.85	4.90	4.89	4.80	4.79	4.75	4.68	4.66	4.83
1928	4.70	4.73	4.72	4.74	4.78	4.91	4.94	4.98	4.94	4.93	4.87	4.95	4.85
1929	5.00	5.06	5.17	5.16	5.12	5.26	5.28	5.34	5.36	5.30	5.11	4.99	5.18
1930	5.00	5.02	4.89	4.92	4.91	4.91	4.89	4.86	4.80	4.91	5.10	5.34	4.96
1931	5.09	5.11	5.17	5.45	5.60	5.70	5.62	6.01	6.43	7.20	7.28	8.46	6.09
1932	7.20	7.10	7.04	8.24	9.30	9.14	8.70	6.96	6.58	6.75	7.00	7.27	7.61
1933	6.71	6.65	6.87	7.00	6.11	5.68	5.31	5.28	5.54	5.67	6.25	5.95	6.09
1934	5.45	4.99	4.91	4.78	4.81	4.78	4.80	5.05	5.15	4.99	4.96	4.86	4.96
1935	4.75	4.81	5.14	5.14	5.12	4.99	4.97	4.95	4.91	4.97	4.90	4.73	4.95
1936	4.50	4.31	4.32	4.38	4.40	4.35	4.31	4.22	4.09	4.02	4.00	3.96	4.24
1937	3.95	4.03	4.15	4.26	4.22	4.22	4.21	4.28	4.43	4.66	4.91	4.79	4.34
1938	5.02	5.06	5.44	5.75	5.44	5.75	5.25	5.09	5.18	4.94	4.83	4.82	5.21
1939	4.70	4.63	4.46	4.66	4.60	4.47	4.42	4.41	4.58	4.51	4.44	4.47	4.53
1940	4.39	4.37	4.37	4.33	4.46	4.57	4.32	4.30	4.23	4.15	4.07	4.03	4.30
1941	3.96	4.00	3.98	3.96	3.95	3.95	3.92	3.92	3.95	3.93	3.91	3.99	3.95
1942	3.93	3.94	3.94	3.95	3.97	4.03	4.02	3.98	3.95	3.92	3.93	3.96	3.96
1943	3.86	3.78	3.73	3.69	3.64	3.61	3.56	3.55	3.56	3.55	3.56	3.56	3.64
1944	3.51	3.49	3.48	3.45	3.41	3.40	3.37	3.34	3.35	3.32	3.29	3.25	3.39
1945	3.23	3.16	3.11	3.07	3.05	3.03	3.00	3.02	3.05	3.03	2.96	2.99	3.06

MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 120 DOMESTIC CORPORATIONS - ACCORDING TO GROUPS

40 UTILITIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	6.63	6.76	6.83	7.03	7.30	7.35	7.37	7.48	7.40	7.28	7.31	7.49	7.19
1921	7.43	7.35	7.35	7.34	7.38	7.41	7.42	7.34	7.08	6.95	6.58	6.37	7.17
1922	6.40	6.31	6.20	6.05	5.87	5.87	5.83	5.78	5.68	5.67	5.77	5.76	5.93
1923	5.72	5.73	5.90	5.93	5.88	5.89	5.89	5.77	5.85	5.85	5.85	5.86	5.83
1924	5.82	5.77	5.76	5.74	5.67	5.59	5.52	5.51	5.52	5.48	5.49	5.46	5.61
1925	5.44	5.41	5.39	5.35	5.22	5.20	5.25	5.28	5.26	5.24	5.24	5.25	5.29
1926	5.20	5.15	5.17	5.12	5.08	5.06	5.08	5.09	5.10	5.11	5.07	5.05	5.11
1927	5.02	5.05	5.03	4.98	4.99	4.98	4.98	4.94	4.92	4.89	4.88	4.84	4.96
1928	4.79	4.77	4.75	4.75	4.79	4.90	4.93	4.97	4.96	4.93	4.90	4.95	4.87
1929	4.96	5.00	5.07	5.09	5.09	5.15	5.16	5.22	5.27	5.25	5.24	5.17	5.14
1930	5.17	5.20	5.10	5.08	5.04	5.03	5.00	4.94	4.87	4.93	5.05	5.21	5.05
1931	5.09	5.09	4.99	4.97	4.97	5.04	5.00	5.01	5.24	5.79	5.72	5.31	5.27
1932	6.20	6.36	6.10	6.66	6.98	7.21	6.97	6.03	5.69	5.72	5.84	5.80	6.30
1933	5.56	5.90	6.41	6.82	6.34	5.99	5.78	5.90	6.31	6.38	6.82	6.82	6.25
1934	6.24	5.58	5.50	5.31	5.27	5.24	5.23	5.37	5.43	5.30	5.22	5.15	5.40
1935	4.97	4.76	4.65	4.60	4.43	4.37	4.26	4.28	4.27	4.24	4.17	4.12	4.43
1936	4.02	3.98	3.98	3.97	3.95	3.91	3.86	3.85	3.83	3.80	3.74	3.69	3.88
1937	3.68	3.76	3.90	3.99	3.95	3.97	3.92	3.89	3.96	4.08	4.06	4.03	3.93
1938	4.01	4.07	4.05	4.11	3.90	3.90	3.79	3.76	3.82	3.73	3.65	3.63	3.87
1939	3.57	3.52	3.48	3.51	3.45	3.42	3.39	3.40	3.70	3.57	3.41	3.38	3.48
1940	3.35	3.33	3.29	3.24	3.30	3.33	3.23	3.23	3.19	3.18	3.14	3.13	3.25
1941	3.17	3.19	3.17	3.16	3.13	3.10	3.07	3.06	3.07	3.05	3.04	3.12	3.11
1942	3.13	3.15	3.17	3.13	3.13	3.12	3.09	3.09	3.08	3.07	3.06	3.07	3.11
1943	3.05	3.02	3.00	3.01	3.00	2.98	2.95	2.96	2.96	2.96	2.98	3.00	2.99
1944	2.99	2.98	2.97	2.97	2.97	2.96	2.95	2.94	2.94	2.96	2.98	2.96	2.97
1945	2.97	2.95	2.94	2.94	2.93	2.89	2.87	2.86	2.85	2.84	2.79	2.81	2.89

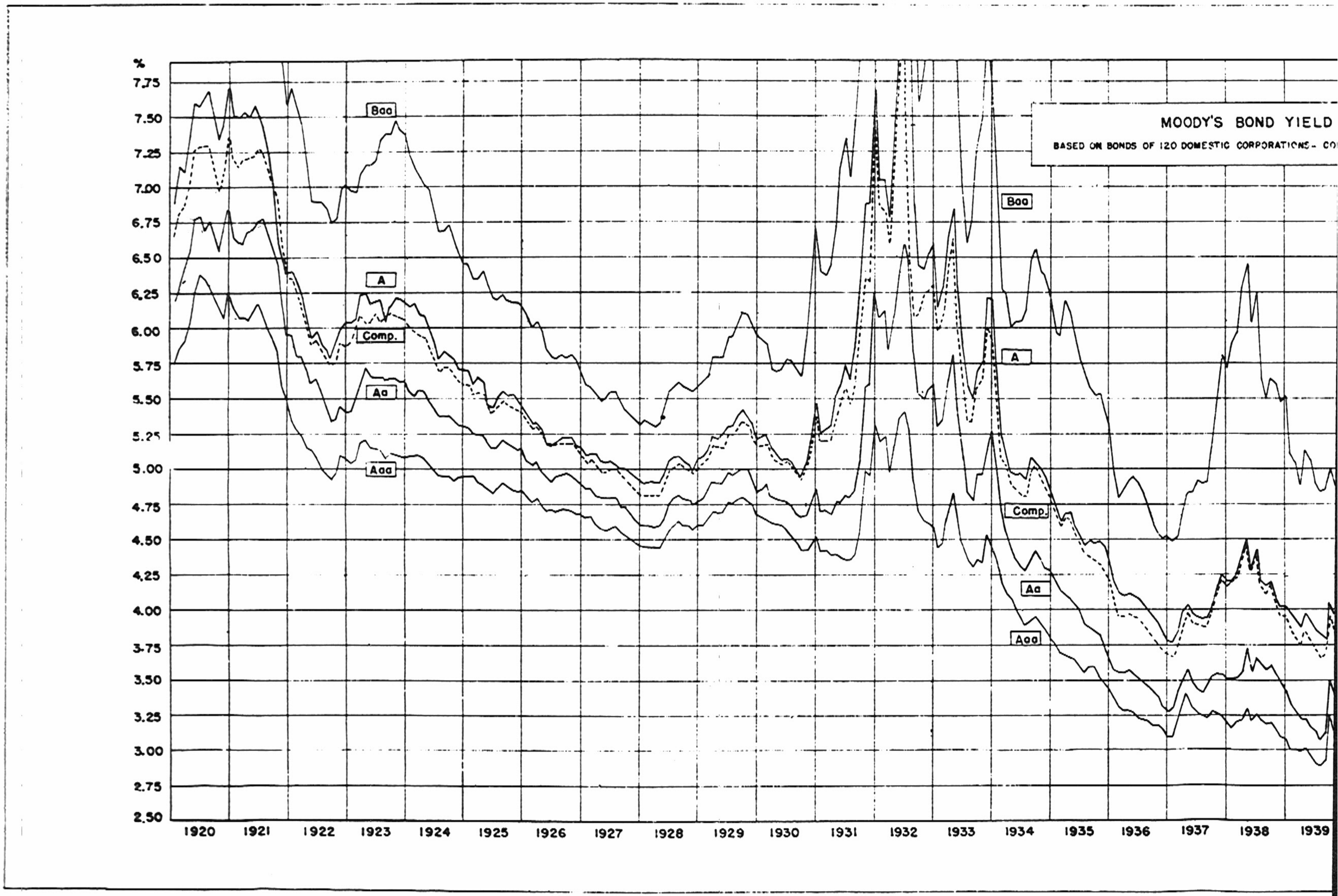
MOODY'S BOND YIELD
BASED ON BONDS OF 120 DOMESTIC CORPORATIONS - CO
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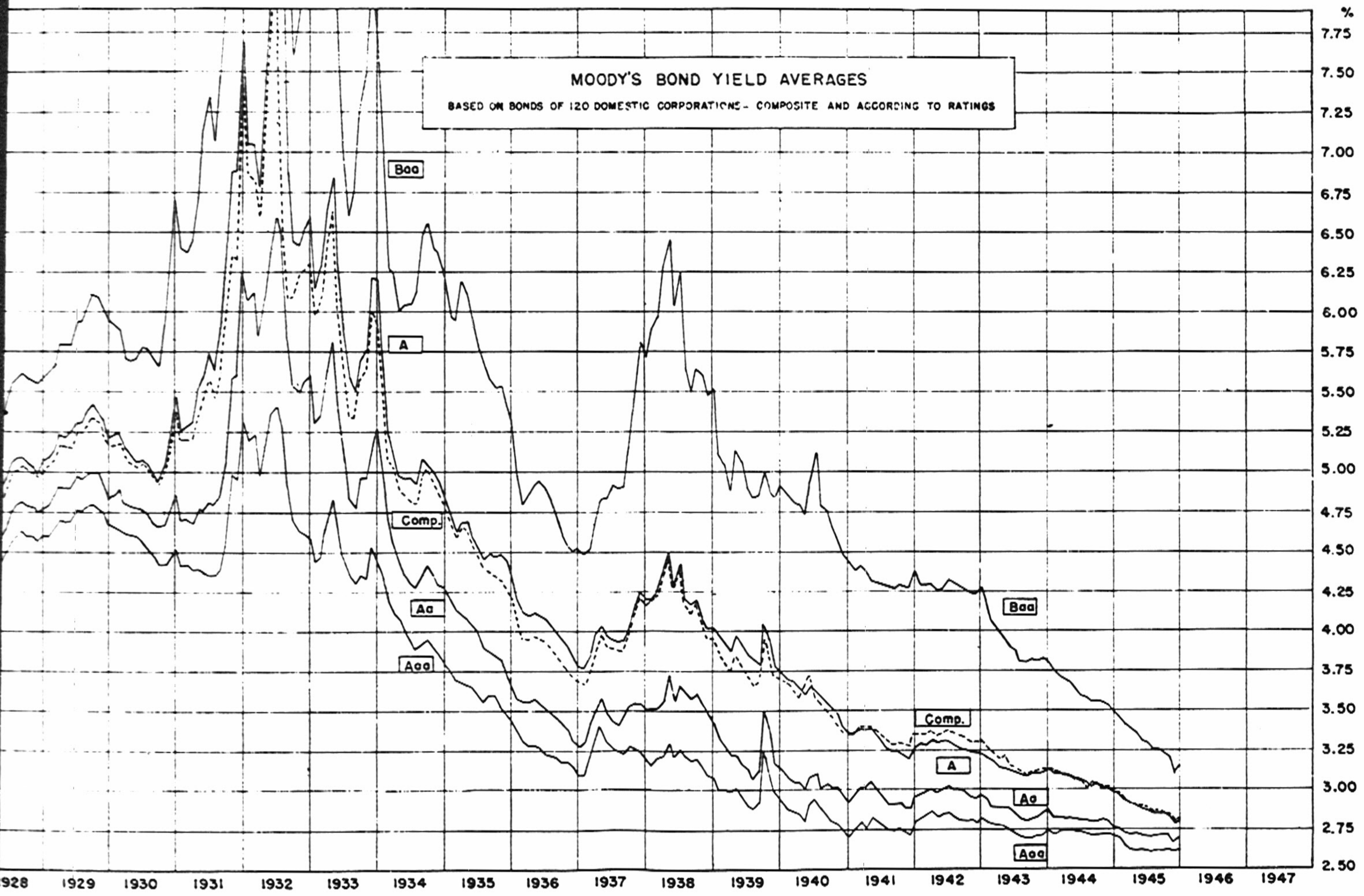
Exhibit No. 46



MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 120 DOMESTIC CORPORATIONS - COMPOSITE AND ACCORDING TO RATINGS

COMPOSITE

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	6.65	6.81	6.86	7.02	7.26	7.29	7.29	7.29	7.12	6.99	7.09	7.34	7.08
1921	7.20	7.15	7.19	7.20	7.21	7.27	7.23	7.14	7.02	6.92	6.57	6.36	7.04
1922	6.35	6.24	6.17	6.01	5.89	5.92	5.84	5.78	5.71	5.76	5.88	5.89	5.95
1923	5.87	5.90	6.03	6.09	6.04	6.05	6.10	6.04	6.08	6.11	6.09	6.08	6.04
1924	6.01	5.98	5.96	5.94	5.88	5.79	5.70	5.72	5.72	5.67	5.63	5.61	5.81
1925	5.60	5.54	5.54	5.54	5.45	5.40	5.44	5.48	5.45	5.43	5.42	5.40	5.47
1926	5.34	5.29	5.31	5.25	5.17	5.16	5.17	5.18	5.18	5.18	5.14	5.10	5.21
1927	5.06	5.07	5.03	4.98	4.98	5.00	5.00	4.95	4.93	4.89	4.86	4.83	4.97
1928	4.83	4.83	4.82	4.83	4.88	4.99	5.02	5.04	5.02	5.00	4.97	5.01	4.94
1929	5.04	5.08	5.16	5.16	5.16	5.25	5.25	5.30	5.34	5.32	5.27	5.17	5.21
1930	5.17	5.18	5.08	5.05	5.04	5.05	5.02	4.97	4.92	5.02	5.17	5.38	5.09
1931	5.20	5.20	5.20	5.35	5.48	5.57	5.47	5.65	6.00	6.62	6.60	7.43	5.81
1932	6.87	6.83	6.62	7.31	7.94	8.01	7.69	6.45	6.08	6.12	6.24	6.31	6.87
1933	5.98	6.13	6.46	6.64	6.02	5.63	5.35	5.34	5.57	5.64	6.02	5.93	5.89
1934	5.52	5.10	5.02	4.87	4.85	4.81	4.81	4.96	5.03	4.92	4.86	4.79	4.96
1935	4.68	4.60	4.66	4.64	4.55	4.47	4.40	4.39	4.36	4.34	4.27	4.19	4.46
1936	4.04	3.95	3.95	3.97	3.96	3.94	3.90	3.85	3.79	3.75	3.71	3.67	3.87
1937	3.67	3.75	3.87	3.97	3.91	3.90	3.88	3.88	3.98	4.12	4.21	4.16	3.94
1938	4.19	4.23	4.36	4.50	4.28	4.40	4.17	4.09	4.17	4.03	3.95	3.95	4.19
1939	3.86	3.81	3.74	3.84	3.78	3.71	3.66	3.67	3.95	3.83	3.70	3.69	3.77
1940	3.63	3.60	3.58	3.54	3.65	3.72	3.57	3.55	3.50	3.46	3.40	3.36	3.55
1941	3.36	3.40	3.39	3.39	3.37	3.34	3.30	3.29	3.30	3.27	3.26	3.35	3.34
1942	3.35	3.35	3.37	3.34	3.36	3.37	3.35	3.34	3.33	3.31	3.31	3.32	3.34
1943	3.27	3.23	3.20	3.19	3.16	3.14	3.11	3.10	3.11	3.11	3.13	3.14	3.16
1944	3.11	3.10	3.09	3.08	3.06	3.05	3.02	3.04	3.03	3.02	3.02	2.98	3.05
1945	2.97	2.93	2.91	2.90	2.89	2.87	2.85	2.86	2.85	2.84	2.80	2.82	2.87

MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 120 DOMESTIC CORPORATIONS - COMPOSITE AND ACCORDING TO RATINGS

30 DOMESTIC CORPORATIONS - RATING AAA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	5.75	5.86	5.92	6.04	6.25	6.38	6.34	6.30	6.22	6.05	6.08	6.26	6.12
1921	6.14	6.08	6.08	6.06	6.11	6.18	6.12	5.99	5.93	5.84	5.60	5.50	5.97
1922	5.34	5.29	5.23	5.15	5.13	5.08	5.00	4.96	4.93	4.97	5.09	5.08	5.10
1923	5.04	5.07	5.18	5.22	5.16	5.15	5.14	5.08	5.12	5.11	5.09	5.09	5.12
1924	5.09	5.09	5.10	5.08	5.04	4.99	4.95	4.95	4.95	4.92	4.94	4.95	5.00
1925	4.95	4.95	4.91	4.87	4.83	4.83	4.87	4.90	4.87	4.85	4.84	4.85	4.88
1926	4.82	4.77	4.79	4.74	4.71	4.72	4.71	4.72	4.72	4.71	4.68	4.68	4.73
1927	4.66	4.67	4.62	4.58	4.57	4.58	4.60	4.56	4.54	4.51	4.49	4.46	4.57
1928	4.46	4.46	4.46	4.46	4.49	4.57	4.61	4.64	4.61	4.61	4.58	4.61	4.55
1929	4.62	4.66	4.70	4.69	4.70	4.77	4.77	4.79	4.80	4.77	4.76	4.67	4.73
1930	4.66	4.69	4.62	4.60	4.60	4.57	4.52	4.47	4.42	4.42	4.47	4.52	4.55
1931	4.42	4.43	4.39	4.40	4.37	4.36	4.36	4.40	4.55	4.99	4.94	5.32	4.58
1932	5.20	5.23	4.98	5.17	5.36	5.41	5.26	4.91	4.70	4.64	4.63	4.59	5.01
1933	4.44	4.48	4.68	4.78	4.63	4.46	4.36	4.30	4.36	4.34	4.54	4.50	4.49
1934	4.35	4.20	4.13	4.07	4.01	3.93	3.89	3.93	3.96	3.90	3.86	3.81	4.00
1935	3.77	3.69	3.67	3.66	3.65	3.61	3.56	3.60	3.59	3.52	3.47	3.44	3.60
1936	3.37	3.32	3.29	3.29	3.27	3.24	3.23	3.21	3.18	3.18	3.15	3.10	3.24
1937	3.10	3.22	3.32	3.42	3.33	3.28	3.25	3.24	3.28	3.27	3.24	3.21	3.26
1938	3.17	3.20	3.22	3.30	3.22	3.26	3.22	3.18	3.21	3.15	3.10	3.08	3.19
1939	3.01	3.01	2.99	3.02	2.97	2.92	2.89	2.93	3.25	3.15	3.00	2.94	3.02
1940	2.88	2.86	2.84	2.82	2.93	2.96	2.88	2.85	2.82	2.79	2.75	2.71	2.84
1941	2.75	2.78	2.80	2.82	2.81	2.77	2.74	2.74	2.75	2.73	2.72	2.80	2.77
1942	2.83	2.85	2.86	2.83	2.85	2.85	2.83	2.81	2.80	2.80	2.79	2.81	2.83
1943	2.79	2.77	2.76	2.76	2.74	2.72	2.69	2.69	2.69	2.70	2.71	2.74	2.73
1944	2.72	2.74	2.74	2.74	2.73	2.73	2.72	2.71	2.72	2.72	2.72	2.70	2.72
1945	2.69	2.65	2.62	2.61	2.62	2.61	2.60	2.61	2.62	2.62	2.61	2.62	2.62

MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 120 DOMESTIC CORPORATIONS - COMPOSITE AND ACCORDING TO RATINGS

30 DOMESTIC CORPORATIONS - RATING AA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	6.19	6.28	6.42	6.54	6.78	6.79	6.69	6.76	6.65	6.56	6.63	6.84	6.59
1921	6.64	6.60	6.59	6.68	6.69	6.76	6.78	6.64	6.56	6.47	6.18	5.95	6.55
1922	5.94	5.80	5.79	5.71	5.62	5.64	5.57	5.44	5.35	5.36	5.45	5.41	5.59
1923	5.42	5.49	5.62	5.73	5.66	5.66	5.69	5.63	5.65	5.65	5.63	5.63	5.62
1924	5.55	5.52	5.57	5.56	5.49	5.43	5.38	5.38	5.38	5.35	5.32	5.31	5.44
1925	5.30	5.25	5.24	5.24	5.19	5.15	5.17	5.21	5.18	5.17	5.14	5.14	5.20
1926	5.07	5.04	5.05	4.99	4.94	4.92	4.95	4.95	4.97	4.95	4.93	4.89	4.97
1927	4.87	4.87	4.83	4.80	4.79	4.80	4.80	4.73	4.73	4.69	4.65	4.62	4.77
1928	4.61	4.61	4.59	4.60	4.64	4.75	4.79	4.82	4.79	4.78	4.75	4.77	4.71
1929	4.79	4.86	4.92	4.91	4.91	4.98	4.97	4.99	5.01	5.01	4.94	4.84	4.93
1930	4.86	4.89	4.80	4.78	4.77	4.76	4.74	4.68	4.65	4.67	4.75	4.85	4.77
1931	4.70	4.70	4.67	4.76	4.76	4.81	4.81	4.85	5.08	5.57	5.61	6.26	5.05
1932	6.08	6.13	5.85	6.11	6.38	6.60	6.51	5.83	5.54	5.51	5.57	5.60	5.98
1933	5.30	5.35	5.61	5.81	5.40	5.09	4.83	4.77	4.96	4.97	5.35	5.27	5.23
1934	5.00	4.70	4.55	4.43	4.37	4.30	4.28	4.34	4.42	4.36	4.28	4.27	4.44
1935	4.21	4.13	4.11	4.08	4.03	3.99	3.89	3.87	3.85	3.82	3.73	3.65	3.95
1936	3.57	3.55	3.55	3.57	3.53	3.51	3.48	3.44	3.41	3.37	3.31	3.28	3.46
1937	3.30	3.40	3.50	3.57	3.48	3.43	3.41	3.41	3.46	3.53	3.54	3.50	3.46
1938	3.50	3.51	3.56	3.73	3.56	3.68	3.62	3.57	3.60	3.53	3.46	3.42	3.56
1939	3.32	3.26	3.22	3.22	3.16	3.13	3.07	3.11	3.49	3.35	3.16	3.14	3.22
1940	3.08	3.05	3.04	2.99	3.08	3.10	3.01	3.03	3.01	3.01	2.96	2.92	3.02
1941	2.95	3.00	3.01	3.04	2.99	2.95	2.90	2.90	2.91	2.87	2.86	2.95	2.94
1942	2.96	2.98	3.00	2.98	3.00	3.01	2.99	2.99	2.98	2.95	2.94	2.96	2.98
1943	2.93	2.89	2.88	2.88	2.87	2.85	2.82	2.81	2.82	2.83	2.84	2.87	2.86
1944	2.83	2.83	2.82	2.82	2.81	2.81	2.80	2.79	2.79	2.81	2.80	2.76	2.81
1945	2.76	2.73	2.72	2.73	2.72	2.69	2.68	2.70	2.70	2.70	2.66	2.68	2.71

MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 120 DOMESTIC CORPORATIONS - COMPOSITE AND ACCORDING TO RATINGS

30 DOMESTIC CORPORATIONS - RATING A

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	6.88	7.15	7.11	7.34	7.60	7.58	7.62	7.69	7.48	7.34	7.45	7.71	7.41
1921	7.52	7.50	7.53	7.53	7.50	7.58	7.53	7.43	7.23	7.03	6.62	6.39	7.28
1922	6.41	6.33	6.22	6.05	5.93	5.97	5.88	5.85	5.79	5.91	5.99	6.04	6.03
1923	6.04	6.07	6.24	6.25	6.17	6.19	6.21	6.06	6.15	6.23	6.22	6.22	6.17
1924	6.16	6.18	6.10	6.09	6.00	5.90	5.79	5.84	5.83	5.78	5.72	5.72	5.93
1925	5.70	5.61	5.66	5.63	5.46	5.44	5.51	5.56	5.53	5.54	5.51	5.46	5.55
1926	5.38	5.33	5.34	5.27	5.18	5.15	5.21	5.23	5.23	5.23	5.17	5.16	5.24
1927	5.11	5.13	5.12	5.06	5.05	5.06	5.04	5.01	5.01	4.97	4.94	4.92	5.04
1928	4.91	4.92	4.92	4.91	4.96	5.07	5.09	5.10	5.07	5.04	4.99	5.08	5.01
1929	5.10	5.14	5.24	5.23	5.24	5.31	5.32	5.39	5.43	5.38	5.33	5.21	5.28
1930	5.23	5.25	5.15	5.12	5.07	5.08	5.06	5.00	4.94	5.06	5.21	5.43	5.13
1931	5.26	5.29	5.30	5.52	5.65	5.75	5.64	5.88	6.29	6.88	6.90	7.70	6.01
1932	7.06	7.06	6.80	7.48	8.40	8.50	8.19	6.84	6.45	6.44	6.53	6.61	7.20
1933	6.16	6.30	6.64	6.85	6.29	5.88	5.58	5.51	5.70	5.76	6.22	6.21	6.09
1934	5.72	5.24	5.12	4.97	4.96	4.96	4.93	5.09	5.17	5.00	4.93	4.86	5.08
1935	4.74	4.63	4.67	4.69	4.59	4.52	4.46	4.49	4.48	4.49	4.45	4.35	4.55
1936	4.21	4.12	4.10	4.12	4.11	4.09	4.05	3.99	3.94	3.90	3.85	3.78	4.02
1937	3.77	3.85	3.97	4.04	3.98	3.96	3.94	3.94	4.02	4.16	4.24	4.20	4.01
1938	4.20	4.24	4.34	4.49	4.28	4.41	4.21	4.13	4.20	4.08	4.02	4.02	4.22
1939	3.97	3.94	3.87	3.97	3.92	3.86	3.83	3.80	4.05	3.94	3.78	3.74	3.89
1940	3.69	3.68	3.65	3.59	3.65	3.70	3.57	3.55	3.52	3.48	3.40	3.36	3.57
1941	3.36	3.38	3.37	3.38	3.34	3.31	3.26	3.24	3.24	3.21	3.19	3.27	3.30
1942	3.30	3.29	3.32	3.30	3.31	3.31	3.28	3.27	3.26	3.24	3.24	3.23	3.28
1943	3.20	3.17	3.14	3.14	3.13	3.11	3.09	3.08	3.10	3.10	3.11	3.13	3.13
1944	3.11	3.10	3.10	3.09	3.07	3.07	3.05	3.04	3.05	3.01	3.01	2.98	3.06
1945	2.98	2.94	2.92	2.90	2.88	2.86	2.85	2.85	2.85	2.84	2.79	2.81	2.87

MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 120 DOMESTIC CORPORATIONS - COMPOSITE AND ACCORDING TO RATINGS

30 DOMESTIC CORPORATIONS - RATING BAA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	7.78	7.94	7.97	8.17	8.39	8.39	8.52	8.39	8.14	7.99	8.21	8.56	8.20
1921	8.50	8.42	8.55	8.53	8.52	8.56	8.48	8.51	8.34	8.34	7.88	7.61	8.35
1922	7.70	7.55	7.45	7.14	6.89	6.97	6.89	6.85	6.75	6.78	6.98	7.02	7.08
1923	6.98	6.97	7.09	7.17	7.17	7.21	7.34	7.38	7.38	7.46	7.40	7.38	7.24
1924	7.24	7.14	7.08	7.03	6.97	6.82	6.67	6.69	6.73	6.62	6.54	6.46	6.83
1925	6.44	6.36	6.36	6.41	6.30	6.18	6.20	6.24	6.20	6.17	6.17	6.15	6.27
1926	6.09	6.02	6.05	5.98	5.86	5.80	5.79	5.81	5.79	5.81	5.77	5.68	5.87
1927	5.61	5.59	5.54	5.48	5.50	5.55	5.55	5.48	5.42	5.38	5.35	5.32	5.48
1928	5.35	5.33	5.32	5.33	5.42	5.55	5.58	5.61	5.59	5.58	5.55	5.60	5.48
1929	5.63	5.66	5.79	5.80	5.80	5.94	5.95	6.04	6.12	6.11	6.03	5.95	5.90
1930	5.92	5.89	5.73	5.70	5.72	5.78	5.77	5.73	5.65	5.94	6.25	6.71	5.90
1931	6.41	6.38	6.44	6.72	7.15	7.36	7.08	7.47	8.07	9.04	8.93	10.42	7.62
1932	9.13	8.87	8.83	10.46	11.63	11.52	10.79	8.22	7.61	7.87	8.24	8.42	9.30
1933	8.01	8.37	8.91	9.12	7.74	7.07	6.62	6.77	7.27	7.49	7.98	7.75	7.76
1934	7.01	6.27	6.26	6.01	6.05	6.06	6.13	6.49	6.57	6.40	6.37	6.23	6.32
1935	5.98	5.95	6.20	6.13	5.94	5.77	5.67	5.58	5.53	5.54	5.43	5.30	5.75
1936	5.00	4.80	4.86	4.91	4.94	4.90	4.84	4.74	4.62	4.54	4.52	4.53	4.77
1937	4.49	4.53	4.68	4.84	4.84	4.93	4.91	4.92	5.16	5.52	5.82	5.73	5.03
1938	5.89	5.97	6.30	6.47	6.06	6.25	5.63	5.49	5.65	5.36	5.23	5.27	5.80
1939	5.12	5.05	4.89	5.15	5.07	4.91	4.84	4.85	5.00	4.88	4.85	4.92	4.96
1940	4.86	4.83	4.80	4.74	4.94	5.11	4.80	4.76	4.66	4.56	4.48	4.45	4.75
1941	4.38	4.42	4.38	4.33	4.32	4.31	4.28	4.27	4.30	4.28	4.28	4.38	4.33
1942	4.29	4.29	4.30	4.26	4.27	4.33	4.30	4.28	4.26	4.24	4.24	4.28	4.28
1943	4.16	4.08	4.01	3.96	3.91	3.88	3.81	3.81	3.83	3.82	3.83	3.82	3.91
1944	3.76	3.72	3.70	3.68	3.63	3.59	3.57	3.55	3.56	3.55	3.53	3.49	3.61
1945	3.46	3.41	3.38	3.36	3.32	3.29	3.26	3.26	3.24	3.20	3.10	3.15	3.29

SOURCE OF DATA

Moody's Bond Yield Averages are computed by Moody's Investors Service and are issued in their publications. The Bond Yield Averages are reproduced in Survey of Current Business, November 1937, 1938 Supplement, and March 1939. The above figures were taken from the last named source for the period from January 1920 to January 1939; and were taken direct from Moody's Bond Survey for the subsequent months.

COMPILATION OF MOODY'S BOND YIELD AVERAGES

In the compilation of Moody's Bond Yield Averages, daily yields for each individual bond are computed on the basis of closing prices. Unweighted arithmetic averages are computed to obtain each of the series shown. The monthly series are arithmetic averages of the daily figures.

Occasional substitutions in the bond list have been made when ratings have been changed, when a bond is called, when a bond sells too far above its call price, or because of approaching maturity. Suitable adjustments (usually small), which are gradually amortized, are introduced to prevent such substitutions from impairing the comparability of the series. No convertible or other unusual issues are included and the average maturity is close to 30 years.

Only 60 bonds were used in the averages from 1920 to 1927, inclusive. From 1928 to 1933, inclusive, 120 bonds were used, no adjustment being required to connect the two series. Since 1933 it has not been possible to find a sufficient number of representative bonds for some of the Industrial and Railroad groups, and therefore contain a less number from time to time. However, the averages for these groups are given equal weighting in combining them with other group averages.

KEY TO MOODY'S BOND RATINGS

Moody's Ratings are an indicator of the relative investment quality of bonds. The Ratings are defined by Moody's Investors Service as follows:

Aaa

Bonds which are rated Aaa are judged to be of the best quality. They carry the smallest degree of investment risk and are generally referred to as "gilt edge." Interest payments are protected by a large or by an exceptionally stable margin and principal is secure. While the various protective elements are likely to change, such changes as can be visualized are most unlikely to impair the fundamentally strong position of such issues.

Aa

Bonds which are rated Aa are judged to be of high quality by all standards. Together with the Aaa group they comprise what are generally known as high grade bonds. They are rated lower than the best bonds because margins of protection may not be as large as in Aaa securities or fluctuation of protective elements may be of greater amplitude or there may be other elements present which make the long term risks appear somewhat larger than in Aaa securities.

A

Bonds which are rated A possess many favorable investment attributes and are to be considered as higher medium grade obligations. Factors giving security to principal and interest are considered adequate but elements may be present which suggest a susceptibility to impairment sometime in the future.

Baa

Bonds which are rated Baa are considered as lower medium grade obligations, i.e., they are neither highly protected nor poorly secured. Interest payments and principal security appear adequate for the present but certain protective elements may be lacking or may be characteristically unreliable over any great length of time. Such bonds lack outstanding investment characteristics and in fact have speculative characteristics as well.

Source of definitions of Ratings: Moody's Public Utilities. 1945, page vi.

BONDS USED IN MOODY'S CORPORATE BOND YIELD AVERAGES

PUBLIC UTILITIES

Aaa

Boston Edison 2-3/4s, 1970
Cincinnati Gas & El. 2-3/4s, 1975
Cleveland Elec. Illum. 3s, 1970
Commonwealth Edison 3s, 1977
Connecticut Lt. & Pr. 3s, 1974
Cons. Gas E. L. & P. Balt. 2-3/4s, 1976
Illinois Bell Tel. 2-3/4s, 1981
Phila. Elec. Co. 2-3/4s, 1971
Public Serv. El. & Gas 3s, 1972
Southwest'n Bell Tel. 2-3/4s, 1985

Aa

Delaware Pr. & Lt. 3s, 1973
Detroit Edison 3s, 1970
Houston Ltg. & Pr. 2-7/8s, 1974
Metropolitan Ed. 2-7/8s, 1974
New York Pr. & Lt. 2-3/4s, 1975
Ohio Power 3s, 1971
Pacific Gas & Elec. 3s, 1979
South. Cal. Edison 3s, 1965
Union Elec. Co. of Mo. 2-3/4s, 1975
Virginia El. & Pr. 2-3/4s, 1975

A

Appalachian El. Pr. 3-1/4s, 1970
Arkansas Pr. & Lt. 3-1/8s, 1974
Central N. Y. Pr. 3s, 1974
Indianapolis P. & L. 3-1/4s, 1970
Louisiana Pr. & Lt. 3s, 1974
Ohio Edison 2-3/4s, 1975
Oklahoma Gas & El. 2-3/4s, 1975
Potomac Edison 3s, 1974
Southwestern Gas & El. 3-1/4s, 1970
Wisconsin Pub. Serv. 3-1/4s, 1971

Baa

Alabama Pr. 3-1/2s, 1972
Calif. El. Power 3-1/2s, 1968
Central Ill. El. & Gas 3s, 1975
Empire Dist. El. 3-1/2s, 1969
Kentucky Utilities 4s, 1970
Mississippi Pr. 3-1/8s, 1971
Portland Gen. El. 3-1/8s, 1975
South Carolina Pr. 3s, 1975
Southwestern P. S. 3-1/8s, 1974
Utah Pr. & Lt. 3-3/4s, 1968

RAILROADS

Aaa

Chesapeake & Ohio 4-1/2s, 1992
Cincinnati Union Term. 2-3/4s, 1974
Hocking Valley 4-1/2s, 1999
Kansas City Term. 2-3/4s, 1974
Norfolk & Western 4s, 1996
Terminal R.R. of St. L. 2-7/8s, 1985
Union Pacific B 3s, 1990

Aa

Ala. Gt. So. 3-1/4s, 1967
Atch., Top. & S. Fe gen. 4s, 1995
Indianapolis Union 3-1/2s, 1986
Monongahela Ry. 3-1/4s, 1966
Pitts., Cin., Chi. & St. L. 4-1/2s, 1964
Virginian Ry. 3s, 1995

BONDS USED IN MOODY'S CORPORATE BOND YIELD AVERAGES

RAILROADS (Cont'd.)

A

Chicago & Nor. West 3s, 1989
Erie R. R. Ohio Div. 3-1/4s, 1971
Great Northern 3-1/8s, 2000
Louisv. & Nashv. 2-7/8s, 2003
N. Y. Connecting R.R. 2-7/8s, 1975
Pennsylvania 3-1/8s, 1985
Piedmont & Northern 3-3/4s, 1966
Pitts., Cin., Chi. & St. L. 3-3/8s, 1975
Reading 3-1/8s, 1995

Baa

Chicago, Burl. & Quincy 3-3/4s, 1974
Clev., Cin., Chi. & St. L. 4s, 1993
Erie 3-1/8s, 2000
N. Y. Cent. & Hud. Riv. 3-1/2s, 1997
N. Y., Chicago & St. L. 3-1/4s, 1980
Northern Pacific 4s, 1997
Pere Marquette 3-3/8s, 1980
Southern Rwy. 5s, 1994
Texas & Pacific 1st 5s, 2000
Wabash R.R. 3-1/4s, 1971

INDUSTRIALS

Aaa

Standard Oil Calif. 2-3/4s, 1966
Swift & Co. 2-3/4s, 1961
Texas Corp. 3s, 1965

Aa

Bethlehem Steel 2-3/4s, 1970
Deere & Co. 2-3/4s, 1965
National Steel 3s, 1965
Philip Morris 3s, 1963
Phillips Petrol. 2-3/4s, 1964
Quaker Oats 2-5/8s, 1964

A

American Tobacco 3s, 1969
Firestone Tire & Rub. 3s, 1961
General Shoe 3s, 1959
Goodrich Co. (B. F.) 2-3/4s, 1965
Koppers Co. 3s, 1964
Lorillard (P.) Co. 3s, 1963
National Dairy Prod. 3-1/4s, 1960
Skelly Oil 2-3/4s, 1965
Union Oil of Cal. 2-3/4s, 1970

Baa

Armour & Co. 3-1/4s, 1964
Ashland Oil & Ref. 3s, 1965
Champion Paper & Fiber 3s, 1965
Continental Baking Co. 3s, 1965
Cudahy Packing 3s, 1964
Eastern Gas & Fuel Asso. 3-1/2s, 1965
Jones & Laughlin 3-1/4s, 1961
Seagram (Jos. E.) & Sons 3-1/4s, 1965
Wheeling Steel 3-1/4s, C. 1970
York. Corp. 3-1/4s, 1960

Source: Moody's Bond Survey, October 29, 1945.

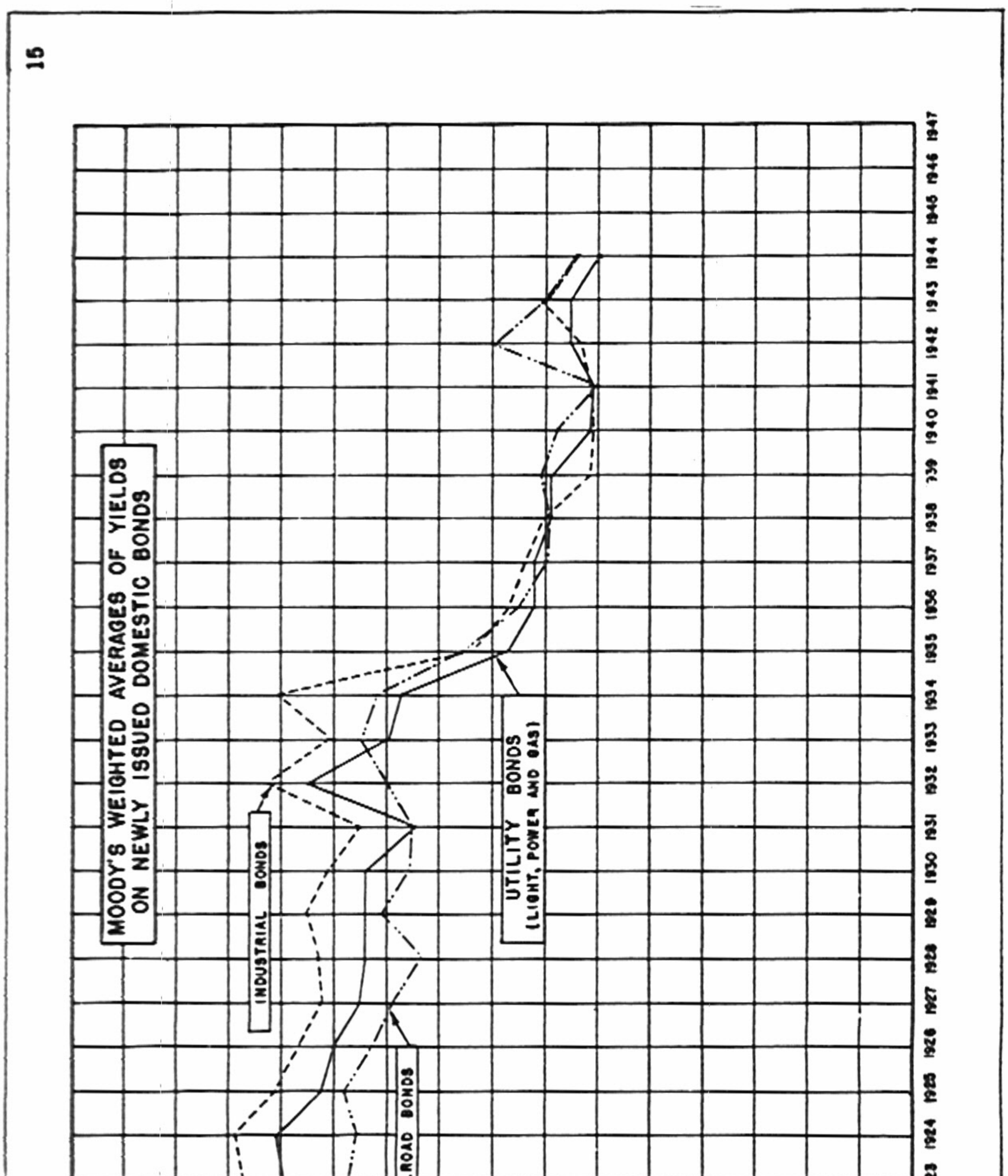

MOODY'S WEIGHTED AVERAGES OF YIELDS ON NEWLY ISSUED DOMESTIC BONDS

Exhibit No. 46

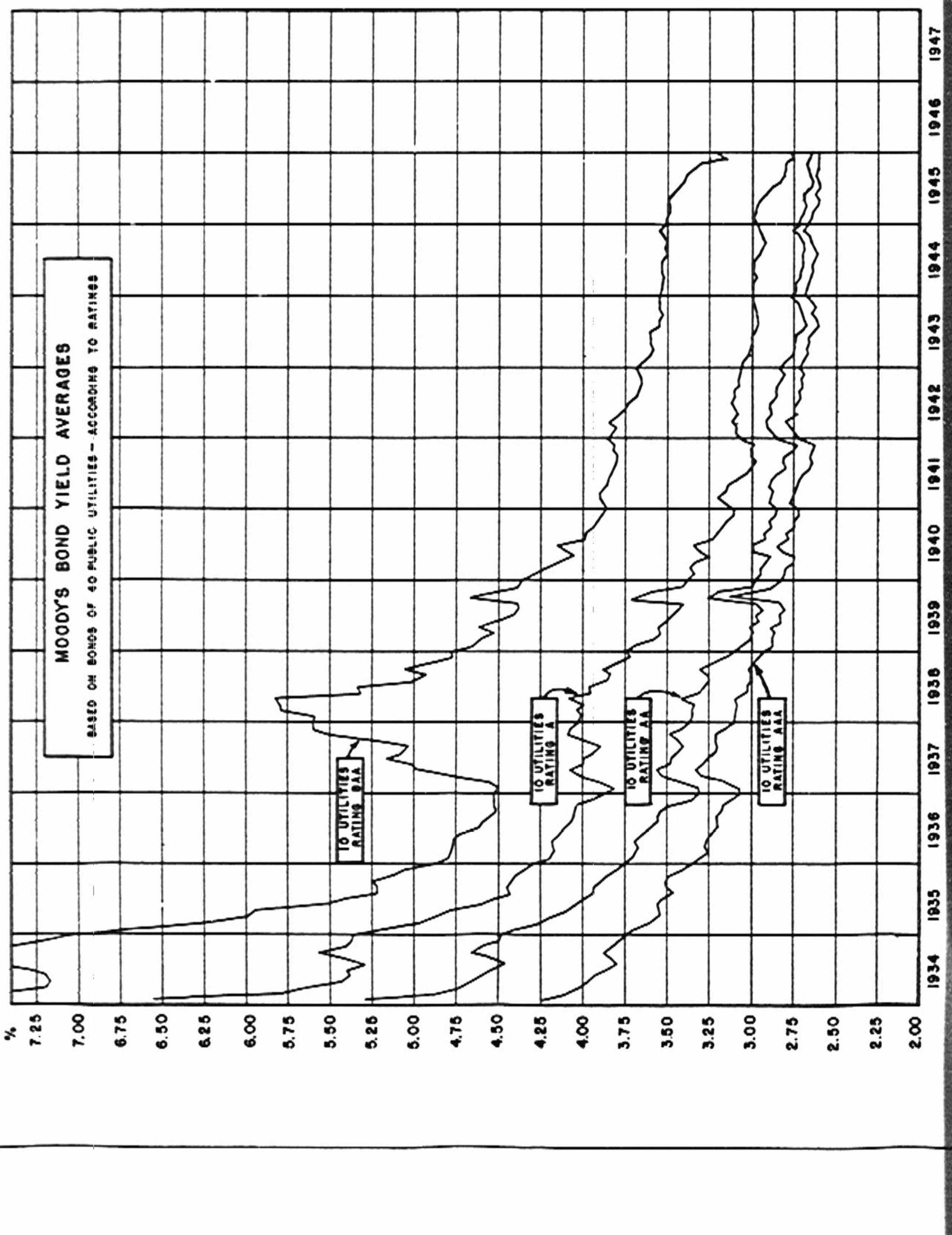
MOODY'S WEIGHTED AVERAGES OF YIELDS ON NEWLY ISSUED DOMESTIC BONDS

UNIT : PER CENT

Year	Industrial Bonds	Utility Bonds	Railroad Bonds
1921	7.57	7.31	6.64
1922	6.62	6.02	5.68
1923	6.37	5.98	5.38
1924	6.43	6.03	5.34
1925	6.05	5.61	5.45
1926	5.83	5.50	5.12
1927	5.62	5.26	4.94
1928	5.64	5.20	4.68
1929	5.76	5.20	5.02
1930	5.57	5.20	4.79
1931	5.26	4.71	4.73
1932	6.12	5.74	5.00
1933	5.56	4.98	5.24
1934	6.04	4.86	5.09
1935	4.19	3.84	4.25
1936	3.87	3.55	3.76
1937	3.70	3.55	3.49
1938	3.52	3.46	3.47
1939	3.09	3.46	3.52
1940	3.05	3.08	3.39
1941	3.08	3.07	3.03
1942	3.16	3.26	4.00
1943	3.53	3.26	3.51
1944	3.22	2.98	3.22

Note: The above table shows the movement of the Average Price of Capital for Industrial, Utility and Railroad Bonds. By "Price of Capital" is meant the average yield to maturity on newly issued bonds. The figures are weighted by the amounts of all new issues floated in any period.

Source of data: Moody's Bond Survey, February 12, 1945.


MOODY'S BOND YIELD AVERAGES
BASED ON BONDS OF 40 PUBLIC UTILITIES – ACCORDING TO RATINGS
10 UTILITIES RATING BAA
10 UTILITIES RATING A
10 UTILITIES RATING AA
10 UTILITIES RATING AAA
%
7.25
7.00
6.75
6.50
6.25
6.00
5.75
5.50
5.25
5.00
4.75
4.50
4.25
4.00
3.75
3.50
3.25
3.00
2.75
2.50
2.25
2.00
1934
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945
1946
1947

MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 40 PUBLIC UTILITIES - ACCORDING TO RATINGS

10 PUBLIC UTILITIES - RATING AAA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1934	4.24	4.10	4.03	3.97	3.93	3.85	3.81	3.83	3.87	3.82	3.78	3.74	3.92
1935	3.69	3.61	3.55	3.55	3.56	3.53	3.47	3.51	3.51	3.48	3.41	3.36	3.52
1936	3.30	3.26	3.28	3.26	3.23	3.21	3.19	3.20	3.18	3.16	3.13	3.07	3.21
1937	3.07	3.16	3.29	3.33	3.28	3.25	3.22	3.20	3.21	3.21	3.15	3.11	3.21
1938	3.10	3.09	3.08	3.10	3.03	3.02	3.01	3.01	3.02	2.98	2.94	2.92	3.03
1939	2.87	2.87	2.86	2.87	2.83	2.83	2.80	2.83	3.14	3.02	2.87	2.82	2.88
1940	2.81	2.80	2.76	2.75	2.82	2.85	2.78	2.79	2.74	2.74	2.72	2.72	2.77
1941	2.77	2.76	2.74	2.75	2.72	2.69	2.65	2.64	2.65	2.63	2.62	2.71	2.69
1942	2.74	2.77	2.79	2.75	2.75	2.74	2.72	2.72	2.71	2.71	2.69	2.71	2.73
1943	2.70	2.67	2.67	2.66	2.66	2.63	2.61	2.62	2.64	2.63	2.64	2.68	2.65
1944	2.67	2.66	2.65	2.64	2.64	2.63	2.62	2.63	2.65	2.66	2.68	2.66	2.65
1945	2.65	2.64	2.62	2.61	2.63	2.60	2.61	2.63	2.61	2.60	2.60	2.60	2.62

10 PUBLIC UTILITIES - RATING AA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1934	5.29	4.88	4.73	4.66	4.60	4.52	4.46	4.55	4.65	4.59	4.49	4.48	4.66
1935	4.40	4.26	4.19	4.11	4.05	4.00	3.93	3.93	3.90	3.85	3.81	3.76	4.02
1936	3.70	3.68	3.67	3.69	3.65	3.60	3.57	3.55	3.54	3.48	3.35	3.31	3.57
1937	3.33	3.43	3.53	3.56	3.48	3.47	3.44	3.41	3.43	3.48	3.42	3.37	3.45
1938	3.35	3.35	3.34	3.42	3.31	3.28	3.26	3.26	3.31	3.23	3.14	3.10	3.28
1939	3.05	3.01	2.99	3.01	2.96	2.97	2.93	2.97	3.31	3.20	2.99	2.97	3.03
1940	2.94	2.94	2.92	2.88	2.99	2.99	2.92	2.92	2.88	2.89	2.86	2.85	2.92
1941	2.88	2.88	2.87	2.90	2.87	2.84	2.80	2.81	2.81	2.76	2.74	2.85	2.83
1942	2.87	2.91	2.92	2.89	2.89	2.89	2.86	2.86	2.85	2.83	2.81	2.83	2.87
1943	2.79	2.76	2.75	2.75	2.74	2.71	2.68	2.69	2.70	2.70	2.73	2.77	2.73
1944	2.74	2.74	2.72	2.71	2.70	2.70	2.70	2.69	2.69	2.72	2.75	2.72	2.72
1945	2.72	2.69	2.67	2.69	2.69	2.65	2.63	2.65	2.66	2.67	2.65	2.64	2.67

Exhibit No. 46

MOODY'S BOND YIELD AVERAGES

BASED ON BONDS OF 40 PUBLIC UTILITIES - ACCORDING TO RATINGS

10 PUBLIC UTILITIES - RATING A

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1934	6.56	5.78	5.66	5.44	5.39	5.40	5.29	5.43	5.56	5.40	5.38	5.36	5.55
1935	5.18	4.96	4.88	4.79	4.61	4.53	4.42	4.44	4.43	4.40	4.35	4.29	4.61
1936	4.21	4.17	4.17	4.17	4.14	4.12	4.07	4.06	4.05	4.04	3.95	3.83	4.08
1937	3.82	3.89	4.00	4.07	4.00	3.99	3.94	3.89	3.96	4.09	4.08	4.03	3.98
1938	4.01	4.03	3.99	4.08	3.95	3.95	3.86	3.84	3.88	3.79	3.73	3.74	3.90
1939	3.68	3.59	3.54	3.55	3.50	3.47	3.43	3.41	3.71	3.58	3.41	3.38	3.52
1940	3.34	3.35	3.34	3.25	3.30	3.34	3.23	3.21	3.18	3.15	3.11	3.10	3.24
1941	3.15	3.20	3.16	3.14	3.08	3.03	3.00	2.98	3.00	3.00	2.98	3.06	3.07
1942	3.09	3.09	3.12	3.09	3.10	3.12	3.10	3.10	3.08	3.08	3.07	3.06	3.09
1943	3.05	3.02	3.01	3.00	3.00	2.98	2.96	2.96	2.96	2.97	2.98	2.99	2.99
1944	2.99	2.99	2.97	2.99	2.99	2.99	2.96	2.94	2.93	2.94	2.96	2.97	2.97
1945	2.99	2.98	2.97	2.95	2.92	2.87	2.83	2.80	2.79	2.79	2.75	2.77	2.87

10 PUBLIC UTILITIES - RATING BAA

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1934	8.86	7.58	7.58	7.18	7.17	7.20	7.36	7.68	7.62	7.38	7.21	7.03	7.49
1935	6.60	6.20	5.99	5.94	5.51	5.41	5.22	5.22	5.25	5.24	5.12	5.07	5.56
1936	4.88	4.80	4.78	4.77	4.76	4.72	4.62	4.59	4.54	4.53	4.53	4.53	4.67
1937	4.50	4.55	4.76	4.98	5.02	5.17	5.08	5.04	5.25	5.53	5.59	5.60	5.09
1938	5.59	5.79	5.80	5.82	5.32	5.33	5.01	4.93	5.05	4.90	4.77	4.77	5.26
1939	4.66	4.59	4.53	4.62	4.50	4.41	4.39	4.39	4.64	4.48	4.38	4.36	4.50
1940	4.30	4.23	4.14	4.06	4.10	4.15	3.99	3.98	3.94	3.92	3.88	3.86	4.05
1941	3.87	3.90	3.90	3.86	3.85	3.83	3.82	3.80	3.80	3.82	3.82	3.85	3.84
1942	3.83	3.81	3.84	3.79	3.76	3.73	3.68	3.67	3.66	3.66	3.67	3.68	3.73
1943	3.65	3.61	3.58	3.60	3.60	3.60	3.55	3.55	3.55	3.53	3.55	3.55	3.58
1944	3.54	3.53	3.52	3.53	3.53	3.53	3.51	3.51	3.51	3.53	3.54	3.50	3.52
1945	3.50	3.48	3.48	3.49	3.47	3.43	3.40	3.37	3.34	3.29	3.15	3.22	3.39

SUMMARY OF YIELDS AT OFFERING TO DATE OF MATURITY ON ELECTRIC OPERATING UTILITY BONDS ISSUED DURING THE PERIOD 1935 - 1945, INCLUSIVE, BY YEARS

Rating	No. of Issues	Total Principal Amount	Average Yield Percent
		1935	
Aaa	12	$ 264,531,000	3.48
Aa	21	505,232,900	3.78
A	10	165,563,500	4.28
Baa	4	11,500,000	5.28
Ba	1	7,500,000	6.00
None*	6	67,130,000	3.63
Total	54	$1,021,457,400	3.81
		1936	
Aaa	11	$ 273,178,500	3.18
Aa	22	514,948,500	3.39
A	20	281,509,400	3.73
Baa	5	59,250,000	4.03
Ba	3	4,792,800	4.74
B	1	2,300,000	4.50
None*	15	157,666,500	3.56
Total	77	$1,293,645,700	3.48
		1937	
Aaa	4	$ 147,000,000	3.37
Aa	10	252,029,000	3.52
A	7	121,264,000	3.72
Baa	6	13,251,000	4.64
None*	15	36,078,000	3.78
Total	42	$ 569,622,000	3.63
		1938	
Aaa	3	$ 27,000,000	3.00
Aa	17	503,075,000	3.31
A	13	273,000,740	3.74
Baa	3	16,800,000	4.24
None*	18	94,912,000	3.18
Total	54	$ 914,787,740	3.43
		1939	
Aaa	1	$ 7,000,000	2.75
Aa	3	52,323,000	3.08
A	10	257,183,300	3.31
Baa	12	202,700,000	3.85
Ba	2	1,149,000	4.11
None*	22	262,234,000	3.29
Total	50	$ 782,589,300	3.42
		1940	
Aaa	3	$ 107,000,000	2.64
Aa	7	249,094,000	2.80
A	10	218,812,000	3.07
Baa	6	49,100,000	3.81
Ba	2	8,660,000	4.37
None*	22	159,326,300	3.41
Total	50	$ 791,992,300	3.06
		1941	
Aaa	3	$ 36,200,000	2.65
Aa	4	140,000,000	2.93
A	5	118,000,000	2.98
Baa	2	4,467,000	2.98
None*	38	238,122,000	3.17
Total	52	$ 536,789,000	3.03
		1942	
Aaa	2	$ 35,000,000	2.71
Aa	1	10,000,000	2.87
A	1	32,500,000	3.19
Baa	4	130,000,000	3.44
Ba	4	21,800,000	4.32
None*	12	42,933,000	3.17
Total	24	$ 272,233,000	3.32

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Exhibit No. 46

SUMMARY OF YIELDS AT OFFERING TO DATE OF MATURITY ON ELECTRIC OPERATING UTILITY BONDS ISSUED DURING THE PERIOD 1935 - 1945, INCLUSIVE, BY YEARS

1943

Rating	No. of Issues	Total Principal Amount	Average Yield Percent
Aa	3	$ 43,300,000	2.77
A	4	87,500,000	2.94
Baa	7	198,500,000	3.54
None*	6	5,800,000	3.44
Total	20	$ 335,100,000	3.28

1944

Rating	No. of Issues	Total Principal Amount	Average Yield Percent
Aaa	4	$ 295,000,000	2.77
Aa	8	250,500,000	2.79
A	11	274,443,000	2.96
Baa	4	27,400,000	3.48
None*	3	68,450,000	3.88
Total	30	$ 915,793,000	2.94

1945

Rating	No. of Issues	Total Principal Amount	Average Yield Percent
Aaa	2	$ 60,500,000	2.70
Aa	11	535,775,000	2.70
A	12	322,649,000	2.87
Baa	11	124,950,000	2.94
Ba	1	19,000,000	3.34
Total	37	$1,062,874,000	2.79

Note: The above Summary was prepared from all known bond issues of Electric Operating Utilities sold in years 1935 to 1945, inclusive, except serial bond and serial debenture issues, as shown in "Moody's Public Utilities." Details of the various issues in each rating for years 1941 to 1945, inclusive, appear on

* Denotes that no rating was assigned to these bond issues.

Exhibit No. 46

SUMMARY OF YIELDS AT OFFERING TO DATE OF MATURITY ON ELECTRIC OPERATING UTILITY BONDS ISSUED DURING THE PERIOD 1935 - 1945, INCLUSIVE, BY RATINGS

RATING Aaa

Year	No. of Issues	Total Principal Amount	Average Yield Percent
1935	12	$ 264,531,000	3.48
1936	11	273,178,500	3.18
1937	4	147,000,000	3.37
1938	3	27,000,000	3.00
1939	1	7,000,000	2.75
1940	3	107,000,000	2.64
1941	3	36,200,000	2.65
1942	2	35,000,000	2.71
1943	-	-	-
1944	4	295,000,000	2.77
1945	2	60,500,000	2.70
Total	45	$1,252,409,500	

RATING Aa

Year	No. of Issues	Total Principal Amount	Average Yield Percent
1935	21	$ 505,232,900	3.78
1936	22	514,948,500	3.39
1937	10	252,029,000	3.52
1938	17	503,075,000	3.31
1939	3	52,323,000	3.08
1940	7	249,094,000	2.80
1941	4	140,000,000	2.93
1942	1	10,000,000	2.87
1943	3	43,300,000	2.77
1944	8	250,500,000	2.79
1945	11	535,775,000	2.70
Total	107	$3,056,277,400	

RATING A

Year	No. of Issues	Total Principal Amount	Average Yield Percent
1935	10	$ 165,563,500	4.28
1936	20	281,509,400	3.73
1937	7	121,264,000	3.72
1938	13	273,000,740	3.74
1939	10	257,183,300	3.31
1940	10	218,812,000	3.07
1941	5	118,000,000	2.98
1942	1	32,500,000	3.19
1943	4	87,500,000	2.94
1944	11	274,443,000	2.96
1945	12	322,649,000	2.87
Total	103	$2,152,424,940	

RATING Baa

Year	No. of Issues	Total Principal Amount	Average Yield Percent
1935	4	$ 11,500,000	5.28
1936	5	59,250,000	4.03
1937	6	13,251,000	4.64
1938	3	16,800,000	4.24
1939	12	202,700,000	3.85
1940	6	49,100,000	3.81
1941	2	4,467,000	2.98
1942	4	130,000,000	3.44
1943	7	198,500,000	3.54
1944	4	27,400,000	3.48
1945	11	124,950,000	2.94
Total	64	$ 837,918,000	

RATING Ba

Year	No. of Issues	Total Principal Amount	Average Yield Percent
1935	1	$ 7,500,000	6.00
1936	3	4,782,800	4.74
1939	2	1,149,000	4.11
1940	2	8,660,000	4.37
1941	4	21,800,000	4.32
1945	1	19,000,000	3.34
Total	13	$ 62,891,800	

RATING B

Year	No. of Issues	Total Principal Amount	Average Yield Percent
1936	1	$ 2,300,000	4.50
	1	$ 2,300,000	

NO RATING ASSIGNED

Year	No. of Issues	Total Principal Amount	Average Yield Percent
1935	6	$ 67,130,000	3.63
1936	15	157,666,500	3.56
1937	15	36,078,000	3.78
1938	18	94,912,000	3.18
1939	22	262,234,000	3.29
1940	22	159,326,300	3.41
1941	38	238,122,000	3.17
1942	12	42,933,000	3.17
1943	6	5,800,000	3.44
1944	3	68,450,000	3.88
1945	-	-	
Total	157	$1,132,651,800	

Note: The above Summary was prepared from all known bond issues of Electric Operating Utilities sold in years 1935 to 1945, inclusive, except serial bond and serial debenture issues, as shown in "Moody's Public Utilities." Details of the various issues in each rating for the years 1941 to 1945, inclusive, appear on

Exhibit No. 46

YIELDS AT OFFERING TO DATE OF MATURITY ON ELECTRIC OPERATING UTILITY BONDS ISSUED DURING THE YEAR 1941

Name of Issue		Principal Amount	Price to Public	Yield Percent
RATING Aaa				
Cons.G.E.L. & P.Co. of Baltimore	First & Ref. 2-3/4%, 1976	$ 12,000,000	103.50	2.60
Hartford Electric Light Co.	Debentures, 3-1/4%, 1971	4,200,000	100.00	3.25
Philadelphia Electric Co.	First & Ref. 2-3/4%, 1971	20,000,000	104.18	2.55
Total - Rating Aaa		36,200,000		2.65
RATING Aa				
Ohio Power Co.	First Mtge. 3%, 1971	15,000,000	102.25	2.89
Pacific Gas & Electric Co.	First & Ref. J, 3%, 1970	20,000,000	101.75	2.91
Union Electric Co. of Missouri	First Mtge. 3-3/8%, 1971	80,000,000	107.38	3.00
Pacific Gas & Electric Co.	First & Ref. K, 3%, 1971	25,000,000	105.00	2.75
Total - Rating Aa		140,000,000		2.93
RATING A				
Central Illinois Pub. Service Co.	First Mtge. 3-3/8%, 1971	38,000,000	107.00	3.01
Luzerne County Gas & El. Corp.	First Mtge. 3-1/4%, 1966	7,500,000	104.75	2.98
Public Service Company of Oklahoma	First Mtge. 3-1/4%, 1971	16,000,000	103.50	3.07
Wisconsin Power & Light Co.	First Mtge. 3-1/4%, 1971	30,000,000	106.88	2.91
Wisconsin Public Service Co.	First Mtge. 3-1/4%, 1971	26,500,000	106.00	2.95
Total - Rating A		118,000,000		2.98
RATING Baa				
Gulf Power Co.	First Mtge. 3-1/8%, 1971	2,600,000	103.00	2.97
Mississippi Power Co.	First Mtge. 3-1/8%, 1971	1,867,000	102.45	3.00
Total - Rating Baa		4,467,000		2.98
NO RATING ASSIGNED				
Albuquerque Gas & Electric Co.	First Mtge. 3-1/2%, 1966	3,000,000	102.00	3.38
Albuquerque Gas & Electric Co.	First Mtge. 3-1/2%, 1966	267,000	104.25	3.25
Black Hills Power & Light Co.	First Mtge. A, 3-1/2%, 1971	2,000,000	103.75	3.30
Buffalo Niagara Electric Corp.	Debentures, 2-1/4%, 1951	7,200,000	100.00	2.25
Central Maine Power Co.	First & Gen. 3-1/2%, 1970	1,250,000	108.00	3.06
Central Maine Power Co.	First & Gen. 3-1/2%, 1970	1,000,000	111.00	2.92
Central New York Power Corp.	Gen. Mtge. 3-1/2%, 1965	5,000,000	101.00	3.44
Central Ohio Light & Power Co.	First Mtge. D, 3-1/2%, 1966	400,000	100.00	3.50
Coast Counties Gas & Electric Co.	First Mtge. 3-1/4%, 1971	3,500,000	104.75	3.01
Deming Ice & Electric Co.	First Mtge. 3-1/2%, 1966	300,000	100.00	3.50
Derby Gas & Electric Corp.	Coll. Tr. Deb. 3%, 1949	2,750,000	100.00	3.00
East Tennessee Light & Power Co.	First Mtge. A, 3-1/2%, 1966	4,800,000	102.50	3.35
Florida Power Corp.	First Mtge. C, 4%, 1966	1,000,000	104.20	3.75
Georgia Power Co.	First Mtge. 3-1/2%, 1971	101,271,000	103.75	3.30
Glen Rock Electric Lt. & Pr. Co.	First Mtge. 3-1/2%, 1966	325,000	100.00	3.50
Gulf Power Co.	First Mtge. 3-1/8%, 1971	3,000,000	102.46	3.00
Iowa Electric Light & Power Co.	First Mtge. B, 3-1/4%, 1971	2,000,000	101.50	3.17
Las Vegas Light & Power Co.	First Mtge. 3-1/2%, 1966	225,000	100.00	3.50
Louisiana Ice & Electric Co.	First Mtge. A, 3-1/2%, 1961	570,000	99.00	3.57
Mississippi Power Co.	First Mtge. 3-1/8%, 1971	7,060,000	102.45	3.00
Mississippi Public Service Co.	First Mtge. A, 4%, 1956	500,000	100.00	4.00
Missouri Utilities Co.	First Mtge. A, 3-1/2%, 1971	3,150,000	104.75	3.25
New Hampshire Gas & Elec. Co.	First Mtge. B, 3-1/2%, 1971	1,000,000	103.79	3.25
New Mexico Power Co.	First Mtge. 3-1/2%, 1966	2,000,000	101.00	3.44

Exhibit No. 46

YIELDS AT OFFERING TO DATE OF MATURITY ON ELECTRIC OPERATING UTILITY BONDS ISSUED DURING THE YEAR

1941

Name of Issue		Principal Amount	Price to Public	Yield Percent
NO RATING ASSIGNED (Continued)				
Central Hudson Gas & Elec. Corp.	First Mtge. 3%, 1971	$ 13,265,000	105.00	2.75
New York State Electric & Gas Corp.	First Mtge. 3-1/4%, 1971	35,393,000	104.02	3.05
Northwestern Wisconsin Electric Co.	First Mtge. B, 3-3/4%, 1954	75,000	100.00	3.75
Otter Tail Power Co.	First Mtge. 3%, 1971	5,600,000	100.00	3.00
Otter Tail Power Co.	First Mtge. 3%, 1971	200,000	100.00	3.00
Public Service Co. of Indiana	First Mtge. 3-1/2%, 1971	4,650,000	104.75	3.25
Public Electric Light Co.	First Mtge. D, 3-3/4%, 1961	100,000	100.00	3.75
Public Service Co. of Indiana, Inc.	First Mtge. 3-3/8%, 1971	13,200,000	105.00	3.12
Rawlins Electric Co.	First Mtge. 3-1/2%, 1966	200,000	100.00	3.50
Sheridan County Electric Co.	First Mtge. 3-1/2%, 1966	750,000	100.00	3.50
Southwestern Public Service Co.	First Mtge. S.F.3-3/4%, 1966	3,421,000	105.50	3.42
Tucson Gas, Electric Light & Pr. Co.	First Mtge. 3-1/2%, 1966	3,500,000	102.00	3.63
Virginia Electric & Power Co.	First & Ref. C, 3-1/8%, 1971	3,000,000	106.50	2.80
Total - No rating assigned		$236,922,000		3.17
Grand Total		$535,589,000		3.03

YIELDS AT OFFERING TO DATE OF MATURITY ON ELECTRIC OPERATING UTILITY BONDS ISSUED DURING THE YEAR

1942

Name of Issue		Principal Amount	Price to Public	Yield Percent
	RATING Aaa			
Potomac Electric Power Co.	First Mtge. 3-1/4%, 1977	$ 20,000,000	113.00	2.67
Public Serv. Elec. & Gas Co.	First & Ref. 3%, 1972	15,000,000	104.50	2.77
Total - Rating Aaa		35,000,000		2.71
	RATING Aa			
Union Electric Co. of Missouri	First Mtge. 3-3/8%, 1971	10,000,000	109.88	2.87
Total - Rating Aa		10,000,000		2.87
	RATING A			
Pennsylvania Electric Co.	First Mtge. 3-3/8%, 1972	32,500,000	103.50	3.19
Total - Rating A		32,500,000		3.19
	RATING Baa			
Alabama Power Co.	First Mtge. 3-1/4%, 1972	80,000,000	101.75	3.14
Public Service Co. of Indiana	First Mtge. D, 3-3/8%, 1972	4,000,000	102.75	3.23
Southwestern Public Service Co.	First Mtge. 4%, 1972	20,000,000	107.50	3.59
Virginia Public Service Co.	First Mtge. 3-3/4%, 1972	26,000,000	105.65	3.45
Total - Rating Baa		130,000,000		3.44
	RATING Ba			
Casco Bay Light & Power Co.	First S. F., B, 4%, 1962	300,000	100.00	4.00
Iowa Southern Utilities Co.	Debentures, S. F., 4-1/2%, 1966	5,000,000	100.00	4.50
Southwestern Public Service Co.	Serial Notes, 2-1/2-3%, 1943-54	6,000,000	100.16	2.75
Virginia Public Service Co.	S. F. Debentures, 5%, 1957	10,500,000	98.77	5.15
Total - Rating Ba		21,800,000		4.32
	NO RATING ASSIGNED			
Brockton Edison Co.	Ten Year Notes, 3%, 1952	1,900,000	100.00	3.00
California Oregon Power Co.	Ten Year Serial Notes, 2-7/8%	1,750,000	100.00	2.88
Central New York Power Corp.	Gen. Mtge. 2-7/8%, 1965	1,000,000	97.90	3.00
Consumers Public Service Co.	First Mtge. 4-1/2%	225,000	100.00	4.50
Commonwealth Edison Co.	First Mtge. 3%, 1977	25,000,000	100.00	3.00
East Missouri Power Co.	First Mtge. 3-3/4%, 1967	218,000	105.02	3.45
Edison Sault Electric Co.	First Mtge. 3-3/4%, 1972	990,000	104.00	3.53
Indianapolis Power & Light Co.	First Mtge. 3%, 1970	2,000,000	101.00	2.95
Kentucky Utilities Co.	First Mtge. 4%, 1970	1,000,000	106.50	3.63
Long Island Lighting Co.	S. F. Debentures 3-3/4%	4,800,000	100.00	3.75
Michigan Gas & Electric Co.	First Mtge. A, 3-3/4%, 1972	3,500,000	102.74	3.60
Missouri Edison Co.	First Mtge. 3-3/4%, 1967	550,000	101.52	3.65
Total - No rating assigned		$ 42,933,000		3.17
Grand Total		$272,233,000		3.32

YIELDS AT OFFERING TO DATE OF MATURITY ON ELECTRIC OPERATING UTILITY BONDS ISSUED DURING THE YEAR 1943

Name of Issue		Principal Amount	Price to Public	Yield Percent
RATING Aa				
Delaware Power & Light Co.	First Mtge. & Coll.Tr.3%,1973	$ 15,000,000	106.14	2.70
Blackstone Valley Gas & Elec. Corp.	First Mtge. & Coll.Tr.3%,1973	11,300,000	104.75	2.77
Iowa Power & Light Co.	First Mtge. 3-1/4%, 1973	17,000,000	108.50	2.83
Total - Rating Aa		43,300,000		2.77
RATING A				
Public Service Co. of New Hamp.	First Mtge. A, 3-1/4%, 1973	20,500,000	108.00	2.85
Northern Indiana Public Service Co.	First Mtge. C, 3-1/8%, 1973	45,000,000	102.88	2.98
Pennsylvania Electric Co.	First Mtge. 3-1/8%, 1973	4,000,000	106.50	2.80
West Texas Utilities Co.	First Mtge. 3-1/8%, 1973	18,000,000	102.46	3.00
Total - Rating A		87,500,000		2.94
RATING Baa				
Puget Sound Power & Light Co.	First Mtge. 4-1/4%, 1972	52,000,000	104.25	4.01
Public Service Co. of Indiana, Inc.	First Mtge. E, 3-1/4%, 1973	38,000,000	102.38	3.13
South Carolina Electric & Gas Co.	First Mtge. 3-5/8%, 1973	20,000,000	104.21	3.40
California Electric Power Co.	First Mtge. 3-1/2%, 1968	16,000,000	103.50	3.29
Southern Colorado Power Co.	First Mtge. 3-1/2%, 1968	5,500,000	102.00	3.38
Central Power & Light Co.	First Mtge. A, 3-1/8%, 1973	25,000,000	99.50	3.15
Utah Power & Light Co.	First Mtge. 3-3/4%, 1968	42,000,000	100.63	3.71
Total - Rating Baa		198,500,000		3.54
NO RATING ASSIGNED				
Superior Water, Light & Power Co.	First Mtge. 3-3/8%, 1973	2,500,000	100.45	3.35
West Coast Power Co.	First Mtge. 4%, 1973	600,000	100.00	4.00
Maine Public Service Co.	First Mtge. 3-1/2%, 1973	300,000	102.00	3.39
Public Service Co. of New Hampshire	First Mtge. 3-1/4%, 1973	900,000	105.26	2.98
Central Vermont Pub. Service Corp.	First Mtge. 3-1/4%, 1973	500,000	105.33	2.98
Superior Water, Light & Power Co.	Debentures, 4%, 1958	1,000,000	100.00	4.00
Total - No rating assigned		$ 5,800,000		3.44
Grand Total		$335,100,000		3.28

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YIELDS AT OFFERING TO DATE OF MATURITY ON ELECTRIC OPERATING UTILITY BONDS ISSUED DURING THE YEAR

1944

Name of Issue		Principal Amount	Price to Public	Yield Percent
RATING Aaa				
Connecticut Light & Power Co.	First & Ref. 3%, 1974	$ 10,000,000	105.75	2.72
Commonwealth Edison Co.	First & Ref. 3%, 1977	155,000,000	104.25	2.80
Philadelphia Electric Co.	First & Ref. 2-3/4%, 1967	65,000,000	100.50	2.72
Philadelphia Electric Co.	First & Ref. 2-3/4%, 1974	65,000,000	100.00	2.75
Total - Rating Aaa		295,000,000		2.77
RATING Aa				
Northern States Power Co.	First Mtge. 2-3/4%, 1974	5,000,000	101.00	2.70
New Jersey Power & Light Co.	First Mtge. 3%, 1974	9,000,000	104.63	2.77
Virginia Electric & Power Co.	First & Ref. 3%, 1974	23,000,000	103.25	2.84
West Penn Power Co.	First Mtge. 3%, 1974	12,500,000	104.50	2.78
Narragansett Electric Co.	First Mtge. 3%, 1974	31,500,000	105.08	2.75
Pacific Gas and Electric Co.	First & Ref. 3%, 1974	115,000,000	104.00	2.80
Metropolitan Edison Co.	First Mtge. 2-7/8%, 1974	24,500,000	101.38	2.81
Houston Lighting & Power Co.	First Mtge. 2-7/8%, 1974	30,000,000	102.50	2.75
Total - Rating Aa		250,500,000		2.79
RATING A				
Florida Power & Light Co.	First Mtge. 3-1/2%, 1974	45,000,000	105.50	3.21
Florida Power Corp.	First Mtge. 3-3/8%, 1974	16,500,000	104.83	3.13
Louisiana Power & Light Co.	First Mtge. 3%, 1974	17,000,000	103.00	2.85
New Orleans Public Service, Inc.	First Mtge. 3-1/8%, 1974	34,500,000	103.88	2.93
Mississippi Power & Light Co.	First Mtge. 3-1/8%, 1974	12,000,000	104.49	2.90
Birmingham Electric Co.	First Mtge. 3%, 1974	10,000,000	101.00	2.95
Ohio Edison Co.	First Mtge. 3%, 1974	30,962,000	102.50	2.88
Arkansas Power & Light Co.	First Mtge. 3-1/8%, 1974	30,000,000	104.00	2.92
Potomac Edison Co., The	First Mtge. & Coll. Tr. 3%,1974	16,981,000	102.50	2.88
California Oregon Power Co., The	First Mtge. 3-1/8%, 1974	13,500,000	102.86	2.98
Central New York Power Corp.	Gen. Mtge. 3%, 1974	48,000,000	103.00	2.85
Total - Rating A		274,443,000		2.96
RATING Baa				
Central Ohio Light and Power Co.	First Mtge. A, 3-1/2%, 1974	4,300,000	105.75	3.20
Arizona Edison Co., Inc.	First Mtge. 3-1/2%, 1974	2,500,000	105.75	3.20
Empire District Electric Co.	First Mtge. 3-1/2%, 1969	10,600,000	106.92	3.10
Florida Power & Light Co.	S. F. Debentures, 4-1/8%, 1979	10,000,000	100.46	4.10
Total - Rating Baa		27,400,000		3.48
NO RATING ASSIGNED				
Illinois Power Co.	First Mtge. & Coll. Tr.4%,1973	63,000,000	101.00	3.94
Florida Power Corp.	Serial Debentures,3-1/4%,1944-57	4,000,000	100.00	3.25
Derby Gas & Electric Corp.	Coll. Tr. Debentures, 3%, 1954	1,450,000	100.00	3.00
Total - No rating assigned		$ 68,450,000		3.88
Grand Total		$915,793,000		2.94

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YIELDS AT OFFERING TO DATE OF MATURITY ON ELECTRIC OPERATING UTILITY BONDS ISSUED DURING THE YEAR

1945

Name of Issue		Principal Amount	Price to Public	Yield Percent
	RATING Aaa			
Connecticut Light & Power Co.	First & Ref. 3%, K, 1980	$ 15,000,000	106.75	2.70
Cincinnati Gas & Electric Co.	First Mtge., 2-3/4%, 1975	45,500,000	101.00	2.70
Total - Rating Aaa		60,500,000		2.70
	RATING Aa			
Pacific Gas & Electric Co.	First & Ref. 3%, M, 1979	80,000,000	107.63	2.66
New York Power & Light Corp.	First Mtge. 2-3/4%, 1975	50,000,000	102.50	2.63
Texas Electric Service Co.	First Mtge. 2-3/4%, 1975	18,000,000	101.00	2.70
Virginia Electric & Power Co.	First & Ref. 2-3/4%, E, 1975	59,000,000	101.50	2.68
Texas Power & Light Co.	First Mtge. 2-3/4%, 1975	26,600,000	100.75	2.71
Consumers Power Co.	First Mtge. 2-7/8%, 1975	113,825,000	102.37	2.76
Pacific Gas & Electric Co.	First & Ref. 3%, N, 1977	49,000,000	105.30	2.75
Public Service Co. of Oklahoma	First Mtge. 2-3/4%, A, 1975	22,500,000	99.50	2.78
Dayton Power & Light Co.	First Mtge. 2-3/4%, 1975	28,850,000	101.63	2.67
Northern States Power Co.	First Mtge. 2-3/4%, 1975	75,000,000	101.00	2.70
Union Electric Co. of Missouri	First Mtge. & Coll.2-3/4%, 1975	13,000,000	101.02	2.70
Total - Rating Aa		535,775,000		2.70
	RATING A			
Oklahoma Gas & Electric Co.	First Mtge. 2-3/4%, 1975	35,000,000	101.00	2.70
Northern Pennsylvania Power Co.	First Mtge. 2-3/4%, 1975	4,000,000	101.00	2.70
Central Vermont Public Service Corp.	First Mtge. 2-3/4%, D, 1975	6,967,000	101.50	2.68
Ohio Edison Co.	First Mtge. 2-3/4%, 1975	26,089,000	101.00	2.70
Monongahela Power Co.	First Mtge. 3%, 1975	22,000,000	102.50	2.88
Western Light & Telephone Co.	First Mtge. 3%, 1975	6,200,000	101.95	2.90
Minnesota Power & Light Co.	First Mtge. 3-1/8%, 1975	26,000,000	102.46	3.00
Public Service Co. of Indiana, Inc.	First Mtge. 3-1/8%, F, 1975	48,000,000	102.46	3.00
Pennsylvania Power & Light Co.	First Mtge. 3%, 1975	93,000,000	101.38	2.93
Montana Power Co.	First Mtge. 2-7/8%, 1975	40,000,000	101.00	2.83
Pennsylvania Power Co.	First Mtge. 2-7/8%, 1975	9,793,000	102.50	2.75
Lake Superior District Power Co.	First Mtge. 3%, A, 1975	5,600,000	102.50	2.88
Total - Rating A		322,649,000		2.87
	RATING Baa			
South Carolina Power Co.	First & Ref. 3%, 1975	8,000,000	101.38	2.93
Southwestern Public Service Co.	First Mtge. 3-1/8%, 1974	17,500,000	103.75	2.93
Montana Dakota Utilities Co.	First Mtge. 3%, 1965	7,500,000	102.63	2.83
Central Illinois Electric & Gas Co.	First Mtge. 3%, 1975	14,000,000	103.00	3.00
Georgia Power & Light Co.	First Mtge. 3%, 1975	2,500,000	101.95	2.90
Mountain States Power Co.	First Mtge. 3%, 1975	7,500,000	101.95	2.90
Portland General Electric Co.	First Mtge. 3-1/8%, 1975	34,000,000	102.41	3.00
Kings County Lighting Co.	First Mtge. 3-1/8%, 1975	4,200,000	102.41	3.00
Southwestern Electric Service Co.	First Mtge. 3-1/8%, 1975	1,550,000	102.25	3.01
Pennsylvania Power & Light Co.	Debenture 3%, 1965	27,000,000	101.50	2.90
Maine Public Service Co.	First Mtge. & Coll.2-7/8% 1975	1,200,000	101.25	2.81
Total - Rating Baa		124,950,000		2.94
	RATING Ba			
Laclede Gas Light Co.	First Mtge. 3-1/2%, 1965	19,000,000	102.75	3.34
Total - Rating Ba		19,000,000		3.34
Grand Total		$1,062,874,000		2.79

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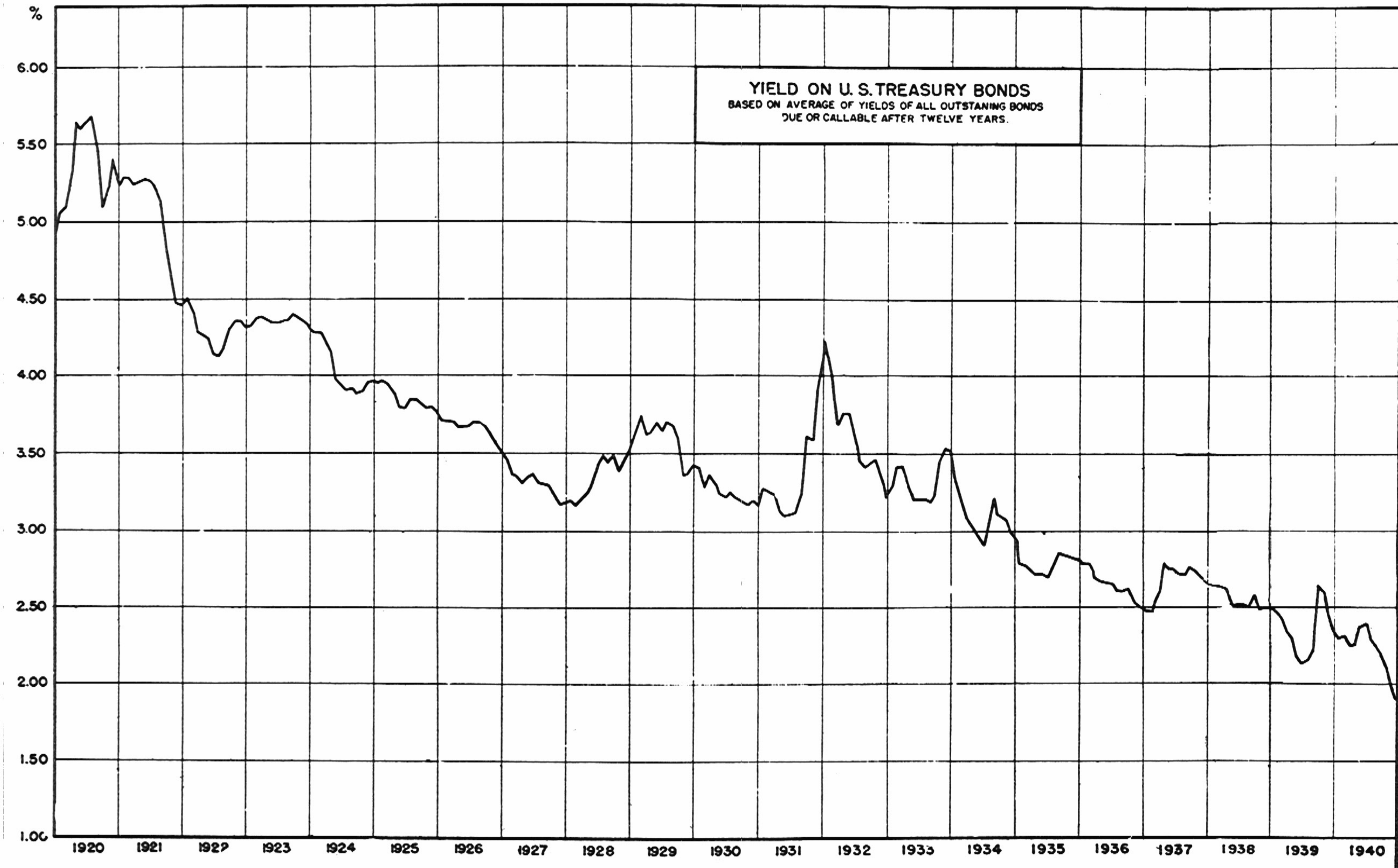

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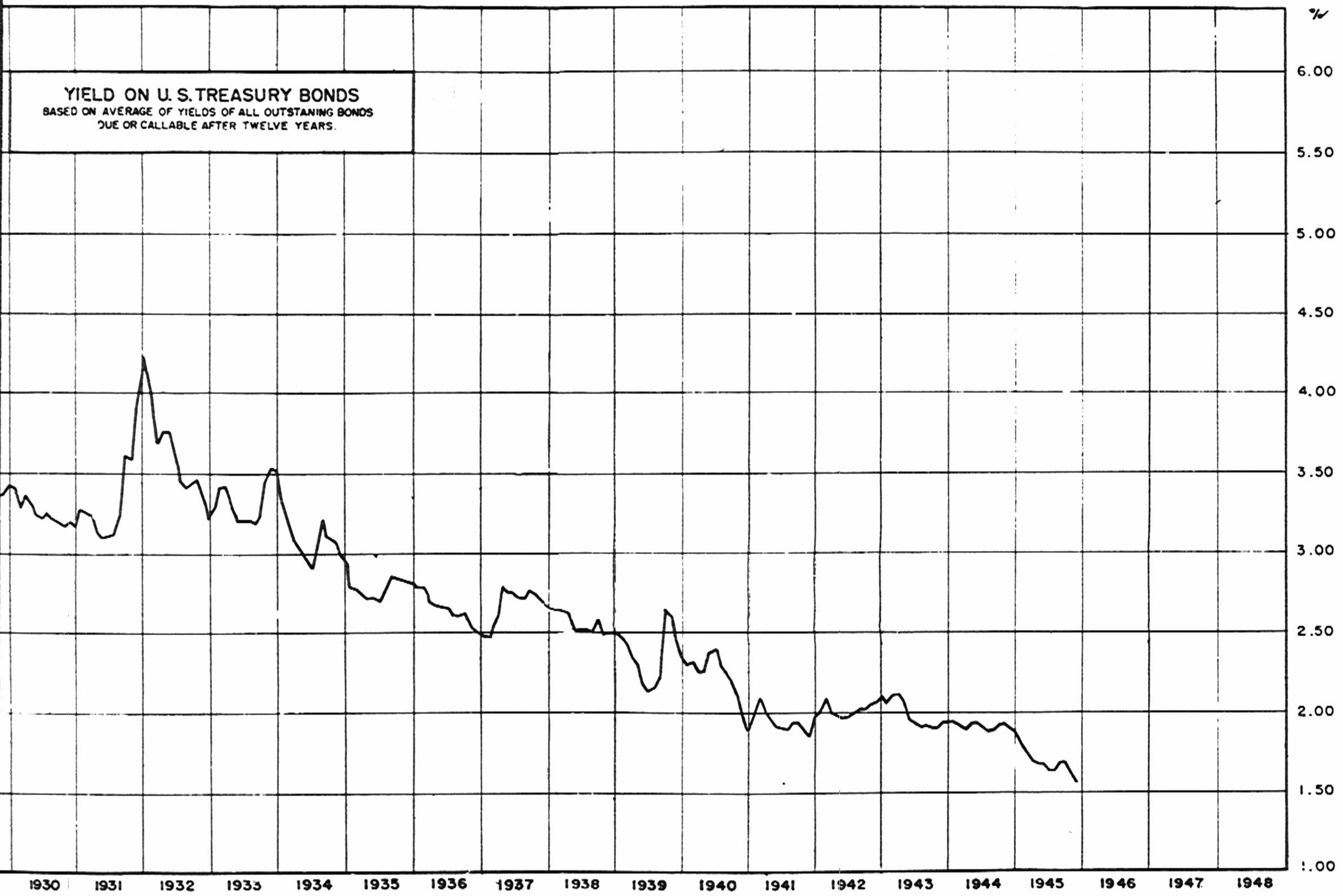

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Exhibit No. 46

YIELD ON UNITED STATES TREASURY BONDS

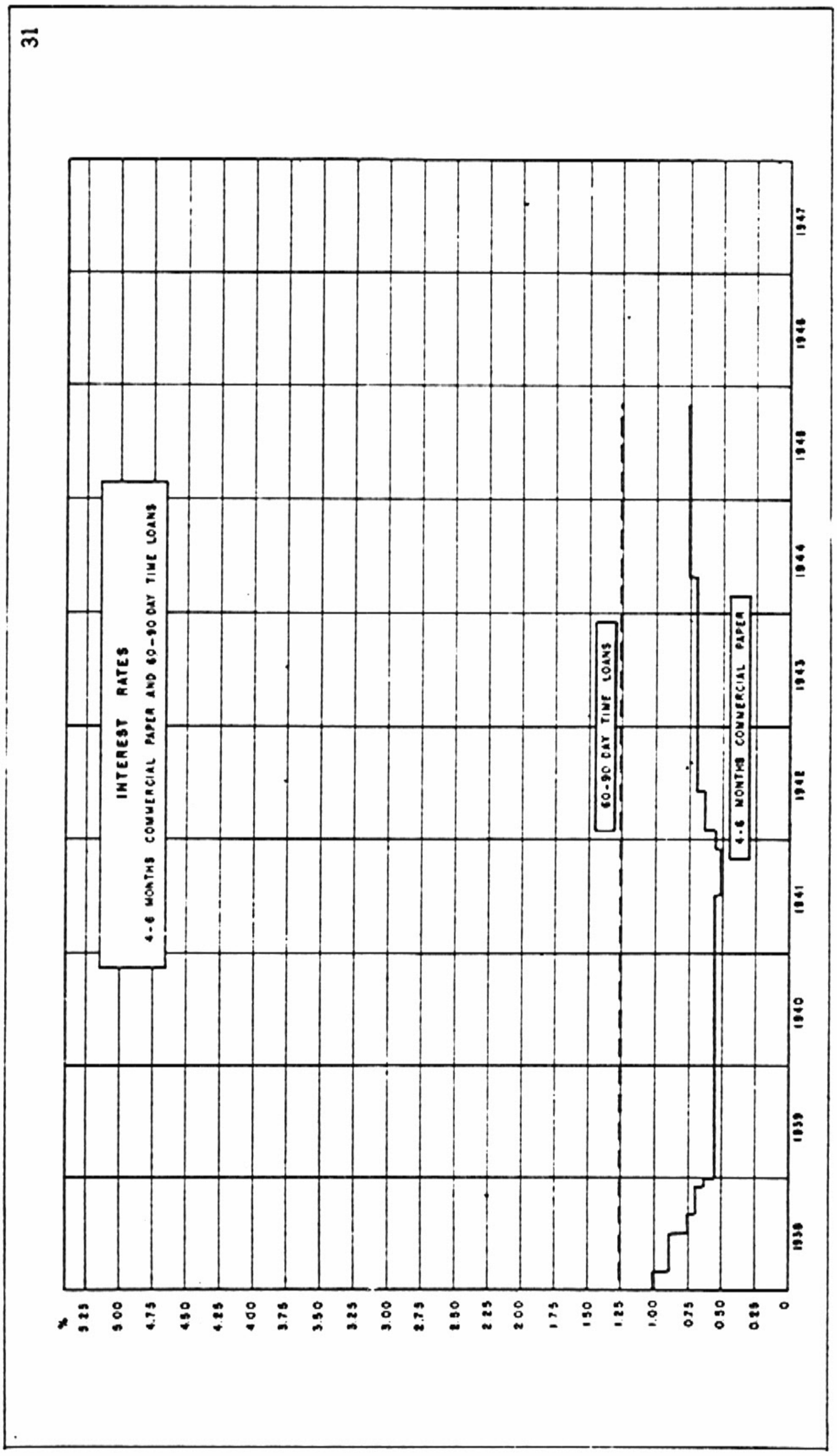
BASED ON AVERAGE OF YIELDS OF ALL OUTSTANDING BONDS DUE OR CALLABLE AFTER TWELVE YEARS 1/

UNIT: PERCENT PER ANNUM

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	4.93	5.05	5.09	5.28	5.58	5.53	5.57	5.67	5.44	5.08	5.21	5.40	5.32
1921	5.23	5.28	5.27	5.24	5.27	5.27	5.26	5.22	5.12	4.83	4.64	4.47	5.09
1922	4.45	4.50	4.42	4.28	4.26	4.24	4.14	4.12	4.19	4.30	4.30	4.35	4.30
1923	4.32	4.33	4.38	4.39	4.37	4.34	4.34	4.35	4.36	4.40	4.37	4.35	4.36
1924	4.30	4.28	4.28	4.23	4.15	3.98	3.94	3.91	3.92	3.87	3.90	3.96	4.06
1925	3.96	3.95	3.96	3.93	3.87	3.79	3.79	3.85	3.85	3.82	3.79	3.80	3.86
1926	3.77	3.71	3.71	3.70	3.67	3.67	3.68	3.70	3.70	3.68	3.62	3.56	3.68
1927	3.51	3.48	3.37	3.35	3.31	3.34	3.36	3.32	3.30	3.29	3.23	3.17	3.34
1928	3.18	3.19	3.17	3.20	3.24	3.29	3.42	3.49	3.46	3.48	3.39	3.46	3.33
1929	3.52	3.62	3.74	3.63	3.64	3.69	3.64	3.70	3.68	3.60	3.36	3.37	3.60
1930	3.43	3.41	3.29	3.37	3.31	3.25	3.25	3.26	3.24	3.21	3.19	3.22	3.29
1931	3.20	3.30	3.27	3.26	3.16	3.13	3.15	3.18	3.25	3.63	3.63	3.93	3.34
1932	4.26	4.11	3.92	3.68	3.76	3.76	3.58	3.45	3.42	3.43	3.45	3.35	3.68
1933	3.22	3.31	3.42	3.42	3.30	3.21	3.20	3.21	3.19	3.22	3.46	3.53	3.31
1934	3.50	3.32	3.20	3.11	3.02	2.98	2.92	3.03	3.20	3.10	3.07	3.01	3.12
1935	2.88	2.79	2.77	2.74	2.72	2.72	2.69	2.76	2.85	2.85	2.83	2.83	2.79
1936	2.80	2.77	2.71	2.68	2.66	2.66	2.65	2.61	2.60	2.62	2.53	2.51	2.65
1937	2.47	2.46	2.60	2.80	2.76	2.76	2.72	2.72	2.77	2.76	2.71	2.67	2.68
1938	2.65	2.64	2.64	2.62	2.51	2.52	2.52	2.51	2.58	2.48	2.50	2.49	2.56
1939	2.47	2.44	2.34	2.30	2.17	2.13	2.16	2.21	2.65	2.60	2.46	2.35	2.36
1940	2.30	2.32	2.25	2.25	2.38	2.39	2.28	2.25	2.18	2.10	1.97	1.89	2.21
1941	1.99	2.10	2.01	1.96	1.92	1.91	1.90	1.94	1.94	1.88	1.85	1.97	1.95
1942	2.01	2.09	2.00	1.98	1.97	1.97	2.00	2.02	2.03	2.05	2.06	2.09	2.02
1943	2.06	2.11 1/	2.12	2.06	1.96	1.93	1.91	1.92	1.90	1.90	1.94	1.94	1.98
1944	1.95	1.93	1.91	1.94	1.94	1.91	1.89	1.90	1.93	1.93	1.90	1.87	1.92
1945	1.81	1.75	1.70	1.68	1.68	1.63	1.63	1.68	1.68	1.62	1.56		

Source of data: The computations were made by the U. S. Treasury Department and represent monthly data which are averages of daily figures. Beginning January 1926, average yields are based on all outstanding Treasury bonds not due or callable for 12 years or more. Earlier figures are for Treasury bonds not due or callable for eight years or more, together with certain Liberty Loan issues. The yields are published in the Survey of Current Business from which the above figures were taken for the period prior to September 1942. Since then figures are from the Federal Reserve Bulletin.

1/ In April 1944, the series was revised (beginning February 1943) to include all outstanding partially tax exempt issues due or callable in more than 15 years.



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SHORT TERM INTEREST RATES

4-6 MONTHS COMMERCIAL PAPER AND 60-90 DAY TIME LOANS

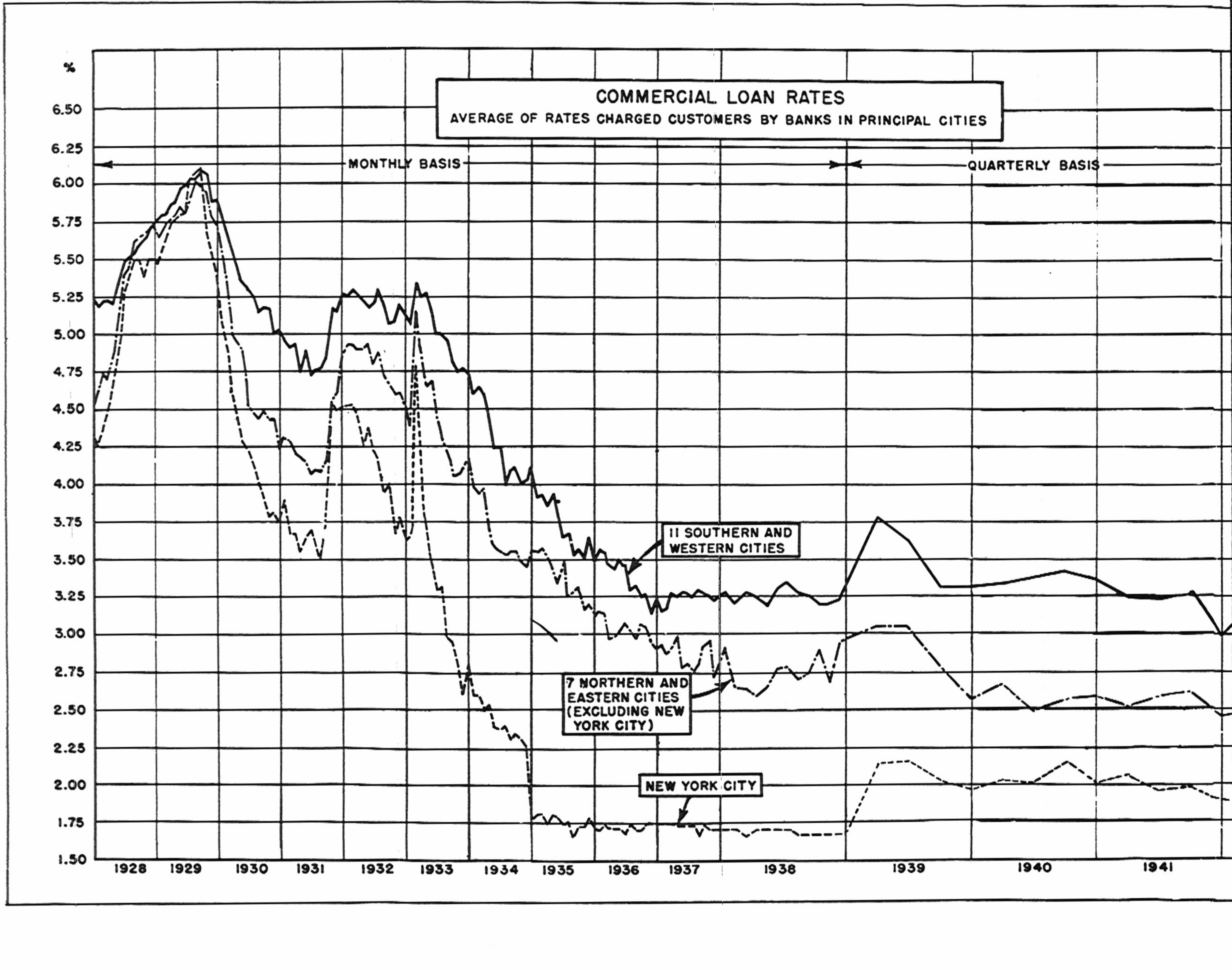
4-6 MONTHS COMMERCIAL PAPER

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1938	1.00	1.00	0.88	0.88	0.88	0.88	0.75	0.75	0.69	0.69	0.69	0.63	0.81
1939	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.69	0.69	0.63	0.56	0.59
1940	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56	0.56
1941	0.56	0.56	0.56	0.56	0.56	0.56	0.50	0.50	0.50	0.50	0.50	0.56	0.54
1942	0.56	0.63	0.63	0.63	0.63	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.66
1943	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69	0.69
1944	0.69	0.69	0.69	0.69	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.73
1945	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75			

60-90 DAY TIME LOANS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1938	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1939	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1940	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1941	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1942	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1943	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1944	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25
1945	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25	1.25			

Source of data: Standard & Poor's Trade and Securities-Statistics, Current Statistics Section. (Published by Standard & Poor's Corporation)



COMMERCIAL LOAN RATES

AVERAGE OF RATES CHARGED CUSTOMERS BY BANKS IN PRINCIPAL CITIES

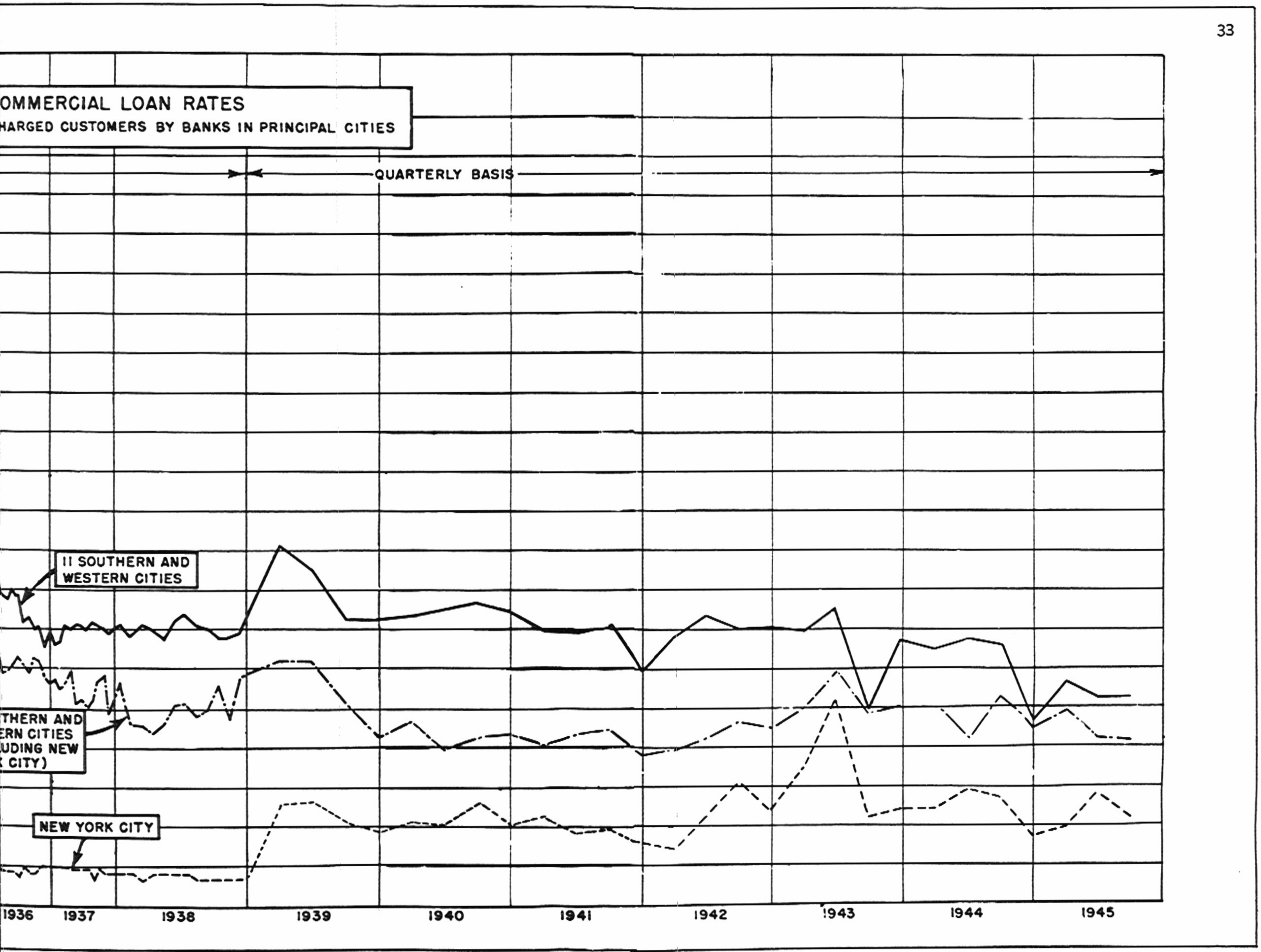

OMMERCIAL LOAN RATES
HARGED CUSTOMERS BY BANKS IN PRINCIPAL CITIES
QUARTERLY BASIS
11 SOUTHERN AND WESTERN CITIES
THERN AND ERN CITIES UDING NEW CITY)
NEW YORK CITY
1936
1937
1938
1939
1940
1941
1942
1943
1944
1945

Exhibit No. 46

COMMERCIAL LOAN RATES

AVERAGES OF RATES CHARGED CUSTOMERS BY BANKS IN PRINCIPAL CITIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
NEW YORK CITY													
1928	4.38	4.25	4.38	4.50	4.63	4.88	5.25	5.38	5.50	5.50	5.38	5.50	4.96
1929	5.50	5.48	5.57	5.72	5.76	5.79	5.80	6.03	6.09	6.11	5.70	5.54	5.76
1930	5.43	5.10	4.91	4.61	4.44	4.28	4.22	4.14	4.00	3.92	3.79	3.82	4.39
1931	3.74	3.89	3.67	3.67	3.57	3.66	3.70	3.58	3.50	3.82	4.55	4.48	3.82
1932	4.51	4.52	4.53	4.46	4.24	4.38	4.22	4.14	3.94	4.01	3.66	3.78	4.20
1933	3.62	3.66	4.79	3.94	3.71	3.51	3.29	3.32	3.00	2.96	2.80	2.61	3.43
1934	2.81	2.62	2.61	2.50	2.55	2.34	2.33	2.42	2.32	2.36	2.32	2.27	2.45
1935	1.79	1.81	1.81	1.74	1.81	1.79	1.74	1.76	1.66	1.73	1.73	1.78	1.76
1936	1.71	1.71	1.74	1.71	1.71	1.71	1.67	1.74	1.70	1.70	1.74	1.74	1.72
1937	1.75	1.75	1.75	1.75	1.73	1.73	1.73	1.73	1.65	1.73	1.70	1.70	1.73
1938	1.70	1.70	1.65	1.70	1.70	1.70	1.70	1.67	1.67	1.67	1.67	1.67	1.69
1939 1/			2.13			2.15			2.04			1.96	2.07
1940			2.03			2.00			2.14			2.00	2.04
1941			2.06			1.95			1.98			1.88	1.97
1942			1.85			2.07			2.28			2.09	2.07
1943			2.36			2.70			2.05			2.10	2.30
1944			2.10			2.23			2.18			1.93	2.11
1945			1.99			2.20			2.05				
SEVEN NORTHERN AND EASTERN CITIES (EXCLUDING NEW YORK CITY)													
1928	4.52	4.59	4.74	4.69	4.87	5.12	5.39	5.42	5.62	5.64	5.66	5.70	5.16
1929	5.70	5.64	5.71	5.75	5.79	5.85	5.80	5.92	6.01	5.99	5.93	5.78	5.82
1930	5.72	5.55	5.30	4.98	4.93	4.89	4.53	4.47	4.44	4.49	4.38	4.38	4.84
1931	4.23	4.31	4.29	4.22	4.19	4.15	4.08	4.10	4.09	4.30	4.53	4.60	4.26
1932	4.86	4.93	4.93	4.89	4.89	4.92	4.80	4.88	4.71	4.68	4.60	4.61	4.81
1933	4.53	4.38	5.14	4.88	4.66	4.68	4.50	4.31	4.20	4.05	4.07	4.09	4.46
1934	4.17	3.98	3.94	3.97	3.68	3.59	3.55	3.53	3.56	3.56	3.48	3.45	3.71
1935	3.57	3.55	3.57	3.53	3.41	3.34	3.46	3.26	3.29	3.32	3.16	3.22	3.39
1936	3.12	3.16	3.14	2.96	2.99	3.02	3.09	3.02	2.97	3.07	3.05	2.94	3.04
1937	2.93	2.95	2.87	2.93	3.01	2.79	2.82	2.76	2.83	2.93	2.98	2.72	2.88
1938	2.92	2.65	2.64	2.60	2.64	2.78	2.78	2.71	2.74	2.90	2.68	2.95	2.75
1939 1/			3.05			3.05			2.78			2.59	2.87
1940			2.67			2.49			2.56			2.53	2.56
1941			2.53			2.58			2.62			2.45	2.55
1942			2.48			2.56			2.66			2.63	2.58
1943			2.76			2.98			2.71			2.76	2.80
1944			2.75			2.55			2.82			2.61	2.68
1945			2.73			2.55			2.53				

COMMERCIAL LOAN RATES

AVERAGES OF RATES CHARGED CUSTOMERS BY BANKS IN PRINCIPAL CITIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
ELEVEN SOUTHERN AND WESTERN CITIES													
1928	5.25	5.18	5.23	5.23	5.22	5.34	5.50	5.51	5.52	5.59	5.64	5.70	5.41
1929	5.73	5.77	5.80	5.86	5.88	5.97	5.98	6.03	6.04	6.08	6,07	5.93	5.93
1930	5.90	5.80	5.73	5.56	5.42	5.36	5.31	5.25	5.15	5.18	5.17	5.01	5.40
1931	5.01	4.96	4.90	4.93	4.74	4.89	4.72	4.75	4.76	4.85	5.18	5.15	4.90
1932	5.26	5.25	5.29	5.25	5.22	5.18	5.20	5.29	5.20	5.07	5.07	5.19	5.21
1933	5.11	5.05	5.35	5.25	5.27	5.15	4.99	5.00	4.95	4.82	4.74	4.76	5.04
1934	4.74	4.60	4.65	4.60	4.46	4.24	4.25	4.00	4.10	4.12	4.01	4.03	4.32
1935	4.12	3.92	3.94	3.85	3.94	3.80	3.65	3.67	3.53	3.57	3.52	3.65	3.76
1936	3.50	3.56	3.55	3.46	3.43	3.51	3.45	3.29	3.33	3.25	3.27	3.14	3.40
1937	3.23	3.15	3.17	3.28	3.25	3.29	3.27	3.26	3.30	3.28	3.26	3.23	3.25
1938	3.28	3.21	3.28	3.25	3.20	3.31	3.35	3.28	3.26	3.21	3.20	3.23	3.26
1939 1/			3.77			3.62			3.31			3.32	3.51
1940			3.35			3.38			3.43			3.36	3.38
1941			3.25			3.23			3.29			2.99	3.19
1942			3.20			3.34			3.25			3.26	3.26
1943			3.24			3.38			2.73			3.17	3.13
1944			3.12			3.18			3.14			2.65	3.02
1945			2.91			2.80			2.81				

1/ On a quarterly basis, beginning with 1939.

Exhibit No. 46

COMMERCIAL LOAN RATES

AVERAGES OF RATES CHARGED CUSTOMERS BY BANKS IN PRINCIPAL CITIES

Cities Included - Reports are received by the Board of Governors of the Federal Reserve System from banks in 19 leading cities scattered throughout the country. These cities are as follows:

New York City

Seven Northern and Eastern Cities

Chicago
Boston
Philadelphia
Pittsburgh
Buffalo
Cleveland
Detroit

Eleven Western and Southern Cities

San Francisco
Los Angeles
St. Louis
Dallas
Minneapolis
Kansas City, Mo.
New Orleans
Seattle
Atlanta
Baltimore
Richmond

The 19 cities included in this list are representative financial centers of the country. They have large loan markets and interest rates charged by banks in these cities are probably more responsive to changes in general monetary conditions than are rates in other places. Because of the financial importance of these cities, their influence would predominate in any compilations of rates designed to show movements of interest rates in large cities. This would be true even though many more cities were covered. In other cities, and especially at country banks, rates are generally higher and fluctuate less in accordance with changes in money market conditions.

Banks that report customer rates have been selected by each Federal Reserve Bank from those that report their statement of condition each Wednesday. They account for at least three-quarters of the commercial loans made by all banks in the city where they are located. At the present time reports are submitted by 87 banks. Reports are requested for loans of branches or any other office that is not the head office only where such loans are made in substantial amounts.

Since March 1939, loans with maturity of 30 days to 12 months, inclusive, are reported separately from those with maturity of over 12 months. Loans with maturity of less than 30 days are not reported. In compiling published averages, only those rates on loans with maturity of 30 days to 12 months are used. Renewals during the period of loans previously made are included in the reports.

Source of Data: Commercial Loan Rates are compiled by the Board of Governors of the Federal Reserve System, and are contained in the Federal Reserve Bulletin.

Exhibit No. 46

REDISCOUNT RATES OF ALL FEDERAL RESERVE BANKS

YEAR-END RATES

Banks	1929	1930	1931	1932	1933	1934	1935-1936	1937-1941	1942-1945
Atlanta	4 %	3½%	3½%	3½%	3½%	2½%	2 %	1½%	1 %
Boston	4½	3	3½	3½	2½	2	2	1	1
Chicago	4½	3½	3½	2½	2½	2½	2	1½	1
Cleveland	5	3	3½	3½	2½	2	1½	1½	1
Dallas	5	3½	4	3½	3½	3	2	1½	1
Kansas City	4½	3½	3½	3½	3½	2½	2	1½	1
Minneapolis	5	3½	3½	3½	3½	3	2	1½	1
New York	4½	2	3½	2½	2	1½	1½	1	1
Philadelphia	5	3½	3½	3½	2½	2½	2	1½	1
Richmond	5	3½	4	3½	3½	3	2	1½	1
St. Louis	5	3½	3½	3½	3	2½	2	1½	1
San Francisco	4½	3½	3½	3½	2½	2	2	1½	1

Source: Federal Reserve Bulletins.

EARNINGS-PRICE RATIOS ON OUTSTANDING COMMON STOCKS OF FOURTEEN ELECTRIC OPERATING UTILITIES - JANUARY 1940 TO MARCH 1946, INCLUSIVE

	1940	1941	1942	1943	1944	1945	1946
January	7.11 %	8.38 %	11.03 %	7.99 %	6.97 %	6.18 %	4.79 %
February	7.18	8.54	11.70	7.79	7.02	5.82	5.11
March	7.02	8.65	12.92	7.57	6.91	5.94	4.88
April	7.16	9.18	12.20	7.61	6.95	5.82	
May	8.63	9.72	11.52	7.60	6.80	5.75	
June	7.80	9.35	10.69	7.32	6.61	5.66	
July	7.62	9.16	10.50	7.30	6.60	5.65	
August	7.76	9.45	10.25	7.22	6.74	5.61	
September	7.78	9.95	9.55	7.14	6.79	5.39	
October	7.78	10.45	8.80	7.04	6.62	5.15	
November	8.40	11.02	8.87	7.24	6.55	5.09	
December	8.15	11.14	8.92	6.97	6.42	5.18	

Note:

The above data is based on the closing market quotations at the end of the month and the latest available earnings for a twelve months' period immediately preceeding the particular month. Also, the earnings-price ratios are based on weighted figures.

Exhibit No. 46

EARNINGS-PRICE RATIOS ON OUTSTANDING COMMON STOCKS OF FOURTEEN ELECTRIC OPERATING COMPANIES

MARCH 30, 1946

Company	Common Shares Outstanding	Market Price March 30, 1946	Total Market Price	Latest Earnings		Earnings-Price Relation
Bangor Hydro-Electric Co.	217,216	25 1/2	$ 5,539,008	$ 212,146	Year 1945	3.83%
Boston Edison Co.	2,468,656	48 7/8	120,655,562	5,103,206	Year 1945	4.23
Cleveland Electric Illuminating Co.	2,324,564	45 1/4	105,186,521	4,534,672	Year 1945	4.31
Commonwealth Edison Co.	12,981,748	35 3/8	459,229,335	24,577,746	Year 1945	5.35
Consolidated Edison Company of N.Y., Inc.	11,471,027	34 5/8	449,493,025	20,043,175	Year 1945	4.46
Consolidated Gas Electric Lt. & Pr. Co. of Baltimore	1,167,397	84 1/2	98,645,047	5,151,088	Year 1945	5.22
Detroit Edison Co.	6,361,300	27 1/4	173,345,425	7,973,350	Twelve months to Feb. 28, 1946	4.60
Houston Lighting and Power Co.	517,999	87 1/2	45,324,913	2,603,272	Year 1945	5.74
Idaho Power Co.	450,000	41 1/2	18,675,000	1,316,226	Year 1945	7.05
Indianapolis Power & Light Co.	714,835	31 3/4	22,696,011	1,383,187	Year 1945	6.09
Pacific Gas & Electric Co.	6,261,357	44	275,499,708	13,523,200	Year 1945	4.91
Pennsylvania Water & Power Co.	429,848	78	33,528,144	2,180,086	Year 1945	6.50
Philadelphia Electric Co.	8,160,317	30	244,809,510)	15,133,505	Year 1945	4.80
" " " $1 Preference	2,368,913	29 5/8	70,179,048)			
Southern California Edison Co., Ltd.	3,182,805	36 3/4	116,968,084	5,472,196	Year 1945	4.68
Total			$2,239,774,341	$109,207,055		4.88%

Exhibit No. 46

38 b

YIELDS ON OUTSTANDING PREFERRED STOCKS OF FOURTEEN ELECTRIC OPERATING UTILITIES

JANUARY 1940 TO MARCH 1946, INCLUSIVE

	1940	1941	1942	1943	1944	1945	1946
January	4.55 %	4.56 %	5.26 %	4.85 %	4.45%	4.28 %	4.09 %
February	4.54	4.61	5.54	4.80	4.48	4.23	4.06
March	4.55	4.60	5.75	4.78	4.45	4.25	4.07
April	4.56	4.68	5.60	4.73	4.50	4.17	
May	5.01	4.83	5.45	4.67	4.42	4.19	
June	4.67	4.80	5.30	4.57	4.39	4.17	
July	4.67	4.83	5.30	4.45	4.32	4.19	
August	4.68	4.80	5.30	4.43	4.34	4.23	
September	4.66	4.78	5.20	4.44	4.33	4.25	
October	4.65	4.80	5.13	4.49	4.33	4.17	
November	4.58	4.85	5.10	4.57	4.29	4.15	
December	4.57	4.97	5.06	4.51	4.27	4.11	

Note:

The above data are based on the closing market quotations at the end of the month and the latest available twelve months' earnings immediately preceeding the particular month. Also, the earnings-price ratios are based on weighted figures.

Exhibit No. 46

YIELDS ON OUTSTANDING PREFERRED STOCKS OF FOURTEEN ELECTRIC OPERATING UTILITIES

MARCH 30, 1946

Company	Preferred Shares Outstanding	Market Price March 30, 1946	Total Market Price	Total Dividends	Yield
Bangor Hydro-Electric Co. 7%, $100	25,000	161	$ 4,025,000	$ 175,000	4.35%
" " 6%, $100	21,799	110	2,397,890	130,794	5.46
Cleveland Electric Illuminating Co. $4.50, No par	254,989	111 1/2	28,431,274	1,147,451	4.04
Consolidated Edison Company of N. Y. Inc. $5, No par	2,181,290	108	235,579,320	10,906,450	4.63
Consolidated Gas Elec. Lt. & Pr. Co. of Balto. B, 4½%, $100	222,921	118	26,304,678	1,003,145	3.81
" " " C, 4%, $100	68,928	110 1/2	7,616,544	275,712	3.62
Houston Lighting & Power Co. $4, No par	97,397	111 1/2	10,859,765	389,588	3.59
Idaho Power Co. 4%, $100	100,000	106	10,600,000	400,000	3.77
Indianapolis Power & Light Co. 5 1/4%, $100	140,591	112 3/4	15,851,635	738,103	4.66
Pacific Gas & Electric Co. 5 1/2%, $25	1,173,163	40 1/4	47,219,811	1,613,099	3.42
" " 6%, $25	4,211,662	44 1/4	186,366,043	6,317,493	3.39
" " 5%, $25	400,000	35 3/4	14,300,000	500,000	3.50
Pennsylvania Water & Power Co. $5, No par	21,493	112 1/2	2,417,962	107,465	4.44
Philadelphia Electric Co. 4.40%, $100	274,472	120	32,936,640	1,207,676	3.88
Southern California Edison Co., Ltd. 5%, $25	160,000	49	7,840,000	200,000	2.55
" " " B, 6%, $25	1,907,256	31 1/4	59,601,750	2,860,884	4.80
" " " C, 5½%, $25	1,399,601	30 3/8	42,512,880	1,924,451	4.53
Total			$734,861,192	$ 29,897,311	4.07%

38c

ELECTRIC OPERATING UTILITY PREFERRED STOCKS ISSUED DURING THE PERIOD 1935 - 1945, INCLUSIVE, WITH EFFECTIVE DIVIDEND RATE TO COMPANIES AND YIELDS TO PUBLIC AT DATE OF OFFERING

Company and Name of Issue (Cumulative Unless Otherwise Noted)		No. of Shares Offered to Public	Net Proceeds to Companies		Effective Dividend Rate to Companies	Price to Public		Yield to Public (Percent)
			Per Share	Total		Per Share	Total	
1935								
Cleveland Elec. Illum. Co.	$4.50, no par	254,995	100.00	$25,499,500	4.50%	102.75	$26,200,736	4.38%
Total				$25,499,500	4.50%		$26,200,736	4.38%
1936								
Central Hudson Gas & Elec. Corp.	4-1/2%, $100 par	3,404	103.53	$ 352,416	4.35%	107.50	$ 365,930	4.19%
Central Illinois Light Co.	4-1/2%, $100 par	117,037	98.73	11,555,063	4.56	102.00	11,937,774	4.41
Cumberland County Pr. & Lt. Co.	5-1/2%, $100 par	10,000	99.38	993,800	5.53	103.00	1,030,000	5.34
Dayton Power & Light Co.	4-1/2%, $100 par	100,000	99.41	9,941,000	4.52	102.50	10,250,000	4.39
Missouri Power & Light Co.	$6, no par	15,000	98.39	1,475,850	6.10	101.50	1,522,500	5.91
Public Service Co. of N. H.	$5, no par	4,860	94.19	457,763	5.31	97.25	472,635	5.14
Public Service Co. of N. H.	$5, no par	11,500	96.75	1,112,625	5.17	100.00	1,150,000	5.00
Rochester Gas & Electric Corp.	5%, $100 par, E	40,000	98.30	3,932,000	5.09	102.00	4,080,000	4.90
Southern Ind. Gas & Elec. Co.	4.8%, $100 par	85,895	99.38	8,536,245	4.83	102.75	8,825,711	4.67
Total				$38,356,762	4.77%		$39,634,550	4.62%
1937								
Consumers Power Co.	$4.50, no par	547,788	97.23	$53,261,427	4.63%	100.50	$55,052,694	4.48%
Northern States Power Co.	$5, no par	275,000	99.94	27,483,500	5.00	103.00	28,325,000	4.85
Ohio Public Service Co.	5-1/2%, $100 par, First Pfd.	16,000	87.89	1,406,240	6.26	92.50	1,480,000	5.95
Total				$82,151,167	4.78%		$84,857,694	4.63%
1938								
Cumberland County Pr. & Lt. Co.	5-1/4%, $100 par	10,000	92.39	$ 923,900	5.95%	97.00	$ 970,000	5.67%
New York & Queens E. L. & P. Co.	5%, $100 par, Non-Cum.	8,772	97.49	855,182	5.13	100.00	877,200	5.00
Pennsylvania Power Co.	$5, no par	42,000	97.31	4,087,020	5.14	101.00	4,242,000	4.95
Public Service Co. of N. H.	$5, no par	8,737	85.84	749,984	5.82	91.00	795,067	5.49
Union Electric Co. of Mo.	$5, no par	130,000	102.03	13,263,900	4.90	106.00	13,780,000	4.72
Total				$19,879,986	5.02%		$20,684,267	4.85%
1939								
Central Ohio Lt. & Pr. Co.	$6, no par	2,200	84.19	$ 185,218	7.13%	90.00	$ 198,000	6.67%
Cons. Gas E. L. & P.Co. of Balto.	4-1/2%, $100 par, B	1,705	110.44	188,300	4.07	112.50	191,813	4.00
New York State El. & Gas Corp.	5-1/2%, $100 par	60,000	95.42	5,725,200	5.76	100.00	6,000,000	5.50
San Antonio Pub. Service Co.	6%, $100 par	2,740	100.61	275,671	5.96	104.00	284,960	5.77
Wisconsin Gas & Electric Co.	4-1/2%, $100 par	4,186	95.93	401,563	4.69	100.00	418,600	4.50
Wisconsin Michigan Power Co.	4-1/2%, $100 par	11,617	96.11	1,116,510	4.68	100.00	1,161,700	4.50
West Penn Power Co.	4-1/2%, $100 par	26,279	106.49	2,798,451	4.23	110.00	2,890,690	4.09
Total				$10,690,913	5.21%		$11,145,763	4.99%
1940								
Appalachian Electric Power Co.	4-1/2%, $100 par	68,981	102.50	$ 7,070,553	4.39%	106.00	$ 7,311,986	4.25%
Central Kansas Power Co.	4-3/4%, $100 par	5,821	96.48	561,610	4.92	100.00	582,100	4.75
Central Maine Power Co.	5%, $50 par	20,000	44.14	882,800	5.66	46.25	925,000	5.41
Coast Counties Gas & Elec. Co.	5%, $25 par, First	58,080	25.99	1,509,499	4.81	27.00	1,568,160	4.63
Cons. Gas E. L. & P.Co. of Balto.	4%, $100 par, C	68,928	101.13	6,970,689	3.96	104.00	7,168,512	3.85
El Paso Electric Co.	$4.50, no par	15,000	101.08	1,516,200	4.45	105.00	1,575,000	4.29
Indianapolis Power & Lt. Co.	6%, $100 par	2,500	104.00	260,000	5.77	104.00	260,000	5.77
Indianapolis Power & Lt. Co.	5-1/4%, $100 par	30,738	103.32	3,175,850	5.08	107.50	3,304,335	4.88
Kansas Power & Light Co.	4-1/2%, $100 par	81,592	99.30	8,102,606	4.53	103.00	8,403,976	4.37
Marion Reserve Power Co.	$5, no par	7,500	94.23	706,725	5.31	98.00	735,000	5.10
Narragansett Electric Co.	4-1/2%, $50 par	180,000	51.28	9,230,400	4.39	53.25	9,585,000	4.23
San Diego Gas & Electric Co.	5%, $20 par	126,135	22.27	2,809,026	4.49	23.00	2,901,105	4.35
Southwestern Gas & Electric Co.	5%, $100 par	4,705	101.57	477,887	4.92	103.00	484,615	4.85
Wisconsin Electric Power Co.	4-3/4%, $100 par	36,170	96.41	3,487,150	4.93	100.00	3,617,000	4.75
Total				$46,760,475	4.52%		$48,121,789	4.36%
1941								
Black Hills Power & Light Co.	5%, $100 par	8,500	94.94	$ 806,990	5.27%	100.00	$ 850,000	5.00%
Kansas Electric Power Co.	5%, $100 par	9,161	99.05	907,397	5.05	103.00	943,583	4.85
Lake Superior Dist. Power Co.	5%, $100 par	13,439	98.79	1,327,639	5.06	102.50	1,377,498	4.88
Louisville Gas & El. Co. (Ky.)	5%, $25 par	114,804	26.37	3,027,381	4.74	27.25	3,128,409	4.59
Luzerne County Gas & El. Co.	5-1/4%, $100 par	4,000	102.09	480,360	5.14	105.00	420,000	5.00
Missouri Utilities Co.	5%, $100 par	14,000	94.37	1,321,160	5.30	99.00	1,386,000	5.05
New York State El. & Gas Corp.	5.10%, $100 par	120,000	100.49	12,058,800	5.08	103.50	12,420,000	4.93
Ohio Power Co.	4-1/2%, $100 par	110,706	104.58	11,577,633	4.30	108.00	11,956,248	4.17
Pacific Gas & Electric Co.	5%, $25 par	400,000	26.87	10,748,000	4.65	27.00	10,800,000	4.63
Public Serv. Co. of Oklahoma	5%, $100 par	58,691	101.55	5,960,071	4.92	105.00	6,162,555	4.76
San Diego Gas & Elec. Co.	5%, $20 par	60,375	23.05	1,391,644	4.34	24.25	1,464,094	4.12
Union Electric Co. of Mo.	$4.50, no par	150,000	102.40	15,360,000	4.39	105.50	15,825,000	4.27
Wisconsin Pub. Service Corp.	5%, $100 par	41,823	101.46	4,243,362	4.93	105.00	4,391,415	4.76
Total				$69,210,437	4.68%		$71,124,802	4.55%
1942								
Connecticut Light & Power Co.	$2.20, no par	220,004	50.44	$11,097,002	4.36%	52.00	$11,440,208	4.23%
Pennsylvania Electric Co.	5.10%, $100 par	34,000	99.59	3,386,060	5.12	103.75	3,527,500	4.92
Philadelphia Electric Co.	4.4%, $100 par	48,221	109.97	5,302,863	4.00	110.00	5,304,310	4.00
Southwestern Public Service Co.	6-1/2%, $100 par	50,000	98.50	5,910,000	6.60	100.00	6,000,000	6.50
Total				$25,695,925	4.90%		$26,272,018	4.79%

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ELECTRIC OPERATING UTILITY PREFERRED STOCKS ISSUED DURING THE PERIOD 1935 - 1945, INCLUSIVE, WITH EFFECTIVE DIVIDEND RATE TO COMPANIES AND YIELDS TO PUBLIC AT DATE OF OFFERING

Company and Name of Issue (Cumulative Unless Otherwise Noted)		No. of Shares Offered to Public	Net Proceeds to Companies Per Share	Net Proceeds to Companies Total	Effective Dividend Rate to Companies	Price to Public Per Share	Price to Public Total	Yield to Public (Percent)
			1943					
Pennsylvania Electric Co.	4.40%, $100 par, B	35,000	102.63	$ 3,592,050	4.29%	105.25	$ 3,683,750	4.18%
California Electric Power Co.	5-1/4%, $100 par, Pr.	40,000	97.80	3,912,000	5.37	102.50	4,100,000	5.12
Delaware Power & Light Co.	4%, $100 par	40,000	101.83	4,073,200	3.93	104.50	4,180,000	3.83
Pennsylvania Electric Co.	4.40%, $100 par, Pr.	3,032	106.91	324,151	4.09	108.75	329,730	4.05
Total				$11,901,401	4.51%		$12,293,480	4.31%
			1944					
Houston Lighting & Power Co.	$4, no par	60,000	99.32	$ 5,959,200	4.03%	102.00	$ 6,120,000	3.92%
Atlantic City Electric Co.	4%, $100 par	55,000	100.29	5,515,950	3.99	102.50	5,637,500	3.90
Arizona Electric Co., Inc.	$5, no par	4,500	95.28	428,760	5.25	100.00	450,000	5.00
New Jersey Power & Light Co.	4%, $100 par	30,000	99.03	2,970,900	4.04	101.50	3,045,000	3.94
Mississippi Valley Pub. Serv. Co.	5%, $100 par	1,850	99.87	184,760	5.01	104.00	192,400	4.81
Idaho Power Co.	4%, $100 par	21,000	100.04	2,100,840	4.00	102.00	2,142,000	3.92
Virginia Electric & Power Co.	$5, $100 par	15,008	112.50	1,688,400	4.44	114.00	1,710,912	4.39
New Orleans Public Serv.Co.,Inc.	4-3/4%, $100 par	77,798	103.19	8,027,976	4.60	106.50	8,285,487	4.46
Indiana & Michigan Elec. Co.	4-1/8%, $100 par	120,000	100.40	12,048,000	4.11	103.13	12,375,600	4.00
Northern Indiana Public Serv. Co.	5%, $100 par	34,692	99.69	3,458,445	5.02	103.50	3,590,622	4.83
Empire District Elec. Co.	5%, $100 par	6,500	99.07	643,955	5.05	102.00	663,000	4.90
Gulf States Utilities Co.	$4.40, $100 par	51,145	103.55	5,296,065	4.25	106.00	5,421,370	4.15
Ohio Edison Co.	4.40%, $100 par	180,000	100.41	18,073,800	4.38	103.00	18,540,000	4.27
Metropolitan Edison Co.	3.90%, $100 par	125,000	100.96	12,620,000	3.86	102.63	12,828,750	3.80
Central Vermont Pub. Serv. Corp.	4.15%, $100 par	19,580	100.00	1,959,762	4.15	102.50	2,006,950	4.05
Total				$80,976,813	4.23%		$83,009,591	4.13%
			1945					
Southwestern Public Service Co.	4-3/4%, $100 par	50,000	(A)	$ (A)		110.50	$ 5,525,000	4.13%
Florida Power Corporation	4%, $100 par	40,000	100.18	4,007,080	3.99%	101.25	4,050,000	3.95
Central Illinois Elec. & Gas Co.	4.10%, $100 par, A	30,000	100.09	3,002,670	4.10	102.00	3,060,000	4.02
New York Power & Light Corp.	3.90%, $100 par	240,000	102.30	24,552,000	3.81	104.00	24,960,000	3.75
Panhandle Eastern Pipeline Co.	4%, $100 par	140,000	102.00	14,280,000	3.92	104.00	14,560,000	3.85
Idaho Power Co.	4%, $100 par	39,413	103.50	4,079,245	3.86	105.50	4,158,072	3.79
Monongahela Power Co.	4.40%, $100 par	90,000	101.03	9,092,700	4.36	103.50	9,315,000	4.25
Southwestern Electric Service Co.	4.40%, $100 par	10,150	100.77	1,022,816	4.37	103.00	1,045,450	4.27
Central Electric & Gas Co.	4.75%, $50 par, A	29,322	(A)	(A)		53.00	1,554,066	4.48
Union Electric Co. of Missouri	3.70%, no par	40,000	100.55	4,021,996	3.68	101.75	4,070,000	3.64
Public Serv. Co. of Oklahoma	4.00%, $100 par	28,859	101.20	2,920,531	3.95	102.75	2,965,262	3.89
Central Power & Lt. Co. (Texas)	4.00%, $100 par	(A)	101.15	(A)	3.95	102.75	10,275,000	3.89
Total (B)				$66,979,038	3.94%		$68,183,784	3.87%

(A) Data not available.
(B) The figures for the Southwestern Public Service Co., Central Electric & Gas Co. and Central Power & Light Co. (Texas) have been excluded from the totals inasmuch as data on these companies are incomplete.

Note: Above information taken from "Moody's Public Utilities," and "Security Issues of Electric and Gas Utilities 1935-1944" - Securities and Exchange Commission.

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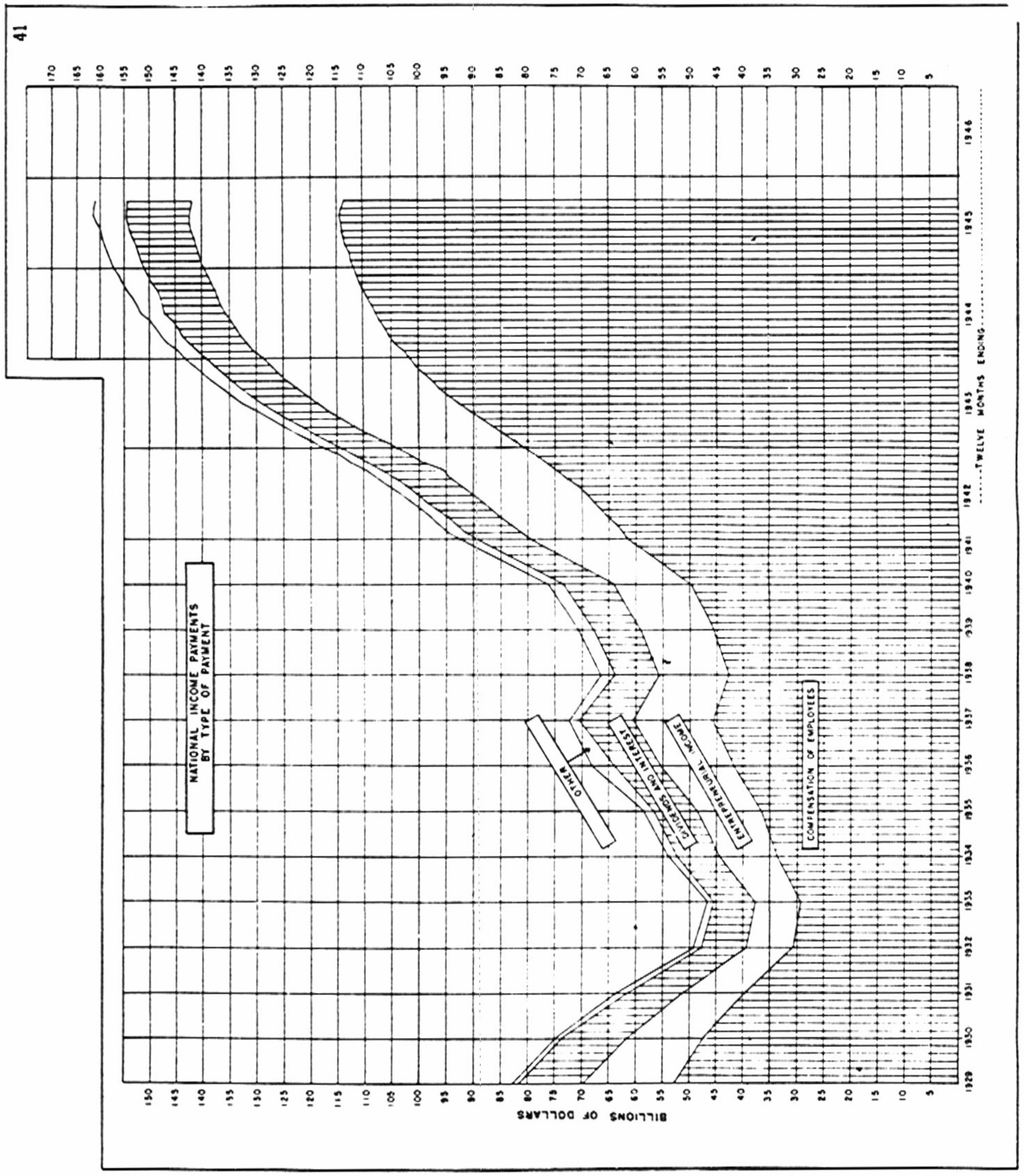
ELECTRIC OPERATING UTILITY COMMON STOCKS OFFERED TO THE PUBLIC DURING THE PERIOD 1935 - 1945, INCLUSIVE, WITH EARNINGS - OFFERING PRICE RATIO

Name of Issue (A)	Offering Date (B)	No. of Shares Offered (C)	Price to Public		Price Per Share to Underwriter (F)	Net Proceeds Per Share to Company (G)	Cost of Floatation Per Share		Earnings		Earnings-Offering Price Ratio (Percent) (L)
			Total (D)	Per Share (E)			Amount (E - G) (H)	Percent of Price to Public (H ÷ E) (I)	12 Mo. Ended (J)	Per Share (K)	
Boston Edison Co., Par $100 (Now $25)	Dec. 1935	4,760	$ 790,160	$166.00	$ Not Underwritten	$ -	$ -	-	9/30/35	$9.73	5.86
Newport Electric Corp., Par $20	May 1939	59,550 (1)	1,756,725	29.50	27.00	26.85	2.65	8.98	3/31/39	2.85	9.66
Indianapolis Power & Lt. Co., No Par	Apr. 1940	(645,980 (1)	15,503,520	24.00	22.00	20.00	-	-	-	-	-
		(68,855	1,652,520	24.00	22.00	21.73	-	-	-	-	-
		714,835	17,156,040	24.00	22.00	21.97	2.03	8.46	12/31/39	1.83	7.63
West Penn[redacted] Power Co., No Par	Apr. 1940	160,000	4,320,000	27.00	25.00	24.76	2.24	8.30	12/31/39	1.62	6.00
Michigan Public Service Co., No Par	Oct. 1940	85,000 (1)	1,211,250	14.25	12.30	(2)	1.95	13.68	6/30/40	1.16	8.14
San Diego Gas & Elec. Co., $10 Par	July 1941	590,527 (1)	8,488,826	14.375	-	13.43	0.95	6.59	6/30/41	1.63	11.34
Missouri Utilities Co., $1.00 Par	Sept. 1941	125,000 (1)	1,687,500	13.50	11.80	11.64	1.86	13.78	12/31/40	1.58	11.70
United Illuminating Co., No Par	Sept. 1941	28,336 (1)	2,833,600	100.00	(2)	(2)	(2)	(2)	12/31/40	5.80	5.80
Louisville Gas & Elec. Co., No Par	Oct. 1941	150,000	3,525,000	23.50	Not Underwritten	22.46	1.04	4.43	9/30/41	1.49	6.34
Black Hills Power & Light Co.	Oct. 1941	100,000	1,650,000	16.50	14.60	14.34	2.16	13.09	(2)	(2)	(2)
San Diego Gas & Elec. Co., $10 Par	Nov. 1941	246,750	3,207,750	13.00	12.00	12.00	1.00	7.69	10/31/41	1.25	9.62
Southwestern Public Service Co., No Par	Sept. 1942	140,482	702,410	5.00	4.50	4.43	0.57	11.40	(2)	(2)	(2)
Central Vermont Public Serv. Corp., No Par	Dec. 1943	194,295	3,108,720	16.00	14.92	14.74	1.26	7.88	2/28/44	0.71	4.44
Derby Gas & Electric Corp., No Par	Jan. 1944	91,577 (1)	1,648,386	18.00	15.50	15.50	2.50	13.89	12/31/43	2.36	13.1
Central Ill. Elec. & Gas Co., $15 Par	Feb. 1944	400,000 (1)	7,650,000	19.13	17.63	17.63	1.50	7.81	12/31/43	2.33	12.2
Lake Superior District Pr. Co., $20 Par	May 1945	133,500 (1)	3,003,750	22.50	21.16	(2)	1.34 (3)	5.96	12/31/44	1.68	7.44
Central Hudson Gas & Elec. Corp., No Par	Sept. 1945	445,778 (1)	4,157,548	9.70	9.33	(2)	.37 (3)	3.85	3/31/45	.56	5.77
Pacific Gas & Electric Co., $25 Par	Sept. 1945	700,000 (1)	28,000,000	40.00	38.96	(2)	1.04 (3)	2.60	6/30/45	2.13	5.37
Central Arizona Light & Power Co.	Nov. 1945	840,000 (1)	11,025,000	13.13	12.42	(2)	.71 (3)	5.37	9/30/45	.85	6.47
Florida Power Corp., $7.50 Par	Oct. 1945	142,857 (1)	2,428,569	17.00	16.26	(2)	.74 (3)	4.35	7/31/45	1.02	6.00
Montana Dakota Utilities Co., $5.00 Par	Oct. 1945	233,351-4/7	2,568,544	11.50	10.55	(2)	.95 (3)	8.26	12/31/44	.72	6.26
Sioux City Gas & Elec. Co., $12.50 Par	Dec. 1945	51,102	1,475,570	28.88	27.78	(2)	1.10 (3)	3.79	10/31/45	2.76	9.55

(1) This offering does not represent new financing. Shares had been held by a former parent company or its trustee.
(2) Information not available.
(3) Computed by deducting column F from column E.

Source of Data: "Moody's Public Utilities," "Standard Corporation Descriptions" and A-2 Registration Statements and Related Prospectuses filed with the S.E.C.


41
NATIONAL INCOME PAYMENTS
BY TYPE OF PAYMENT
OTHER
DIVIDENDS AND INTEREST
ENTREPRENEURIAL INCOME
COMPENSATION OF EMPLOYEES
BILLIONS OF DOLLARS
TWELVE MONTHS ENDING
1929
1930
1931
1932
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1935
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Exhibit No. 46

NATIONAL INCOME PAYMENTS

(MILLIONS OF DOLLARS)

Year or Period	Total Income Payments	Compensation of Employees(1)	Entrepreneurial Income and Net Rents and Royalties	Dividends and Interest	Direct and Other Relief	Social Security Benefits and Other Labor Income(2)
1929	$ 82,374	$ 52,202	$17,332	$11,845	$ 60	$ 935
1930	74,646	47,343	14,506	11,714	94	989
1931	63,520	39,810	11,295	10,266	158	1,991
1932	49,295	30,964	8,374	8,383	326	1,248
1933	46,808	29,085	8,770	7,331	580	1,042
1934	53,978	33,722	10,548	7,919	828	961
1935	58,728	36,636	11,919	8,034	1,099	1,040
1936	68,116	41,739	13,533	9,700	672	2,472
1937	72,213	45,811	14,586	9,762	837	1,217
1938	66,584	42,770	13,139	8,026	1,008	1,641
1939	70,829	45,658	13,441	8,891	1,071	1,768
1940	76,237	49,700	14,313	9,175	1,098	1,951
1941	92,732	61,374	18,599	9,761	1,112	1,886
Twelve Months Ended						
1942						
Jan. 31	94,514	62,603	19,109	9,797	1,110	1,895
Feb. 28	96,170	63,843	19,512	9,798	1,109	1,908
Mar. 31	97,971	65,158	19,931	9,853	1,105	1,924
Apr. 30	99,841	66,542	20,381	9,877	1,101	1,940
May 31	101,581	67,904	20,758	9,875	1,097	1,947
June 30	103,432	69,354	21,137	9,896	1,091	1,954
July 31	105,427	70,942	21,530	9,900	1,087	1,968
Aug. 31	107,478	72,631	21,909	9,877	1,083	1,978
Sept. 30	109,758	74,392	22,406	9,869	1,079	2,012
Oct. 31	112,203	76,279	22,985	9,815	1,075	2,049
Nov. 30	114,878	78,377	23,545	9,806	1,069	2,081
Dec. 31	117,285	80,407	23,933	9,771	1,061	2,113
1943						
Jan. 31	119,749	82,562	24,224	9,765	1,050	2,148
Feb. 28	122,292	84,738	24,554	9,779	1,036	2,185
Mar. 31	124,887	86,879	24,954	9,808	1,020	2,226
Apr. 30	127,321	88,979	25,272	9,785	1,005	2,280
May 31	129,710	90,952	25,636	9,791	992	2,339
June 30	132,158	92,821	25,923	10,028	982	2,404
July 31	134,269	94,581	26,214	10,033	973	2,468
Aug. 31	136,305	96,205	26,538	10,054	964	2,544
Sept. 30	138,187	97,744	26,716	10,164	957	2,606
Oct. 31	139,900	99,165	26,893	10,220	950	2,672
Nov. 30	141,474	100,507	27,043	10,226	944	2,754
Dec. 31	143,134	101,791	27,161	10,389	939	2,854

Exhibit No. 46

NATIONAL INCOME PAYMENTS

(MILLIONS OF DOLLARS)

Year or Period	Total Income Payments	Compensation of Employees(1)	Entrepreneurial Income and Net Rents and Royalties	Dividends and Interest	Direct and Other Relief	Social Security Benefits and Other Labor Income(2)
Twelve Months Ended						
1944						
Jan. 31	$144,643	$102,993	$27,350	$10,406	$ 935	$2,959
Feb. 29	146,162	104,226	27,494	10,409	933	3,100
Mar. 31	147,676	105,259	27,569	10,617	934	3,297
Apr. 30	148,819	106,154	27,599	10,638	935	3,493
May 31	149,953	107,049	27,648	10,634	937	3,685
June 30	151,199	107,874	27,724	10,801	938	3,862
July 31	152,209	108,675	27,746	10,811	939	4,038
Aug. 31	153,066	109,431	27,653	10,827	940	4,215
Sept. 30	154,195	110,083	27,659	11,120	940	4,393
Oct. 31	155,113	110,712	27,788	11,099	941	4,573
Nov. 30	155,946	111,208	27,958	11,090	942	4,748
Dec. 31	156,794	111,734	28,017	11,195	943	4,905
1945						
Jan. 31	157,610	112,211	28,111	11,297	944	5,047
Feb. 28	158,147	112,557	28,164	11,328	945	5,153
Mar. 31	158,854	113,004	28,190	11,511	946	5,203
Apr. 30	159,452	113,411	28,334	11,508	948	5,251
May 31	159,900	113,706	28,411	11,512	951	5,320
June 30	160,724	113,934	28,497	11,811	954	5,528
July 31	161,381	114,095	28,779	11,852	957	5,698
Aug. 31	161,469	113,812	28,983	11,861	961	5,852
Sept. 30	161,223	113,145	29,095	11,927	966	6,090

(1) Includes income in kind as well as cash income.

(2) In addition to benefits payable under the Social Security program, this item includes pensions paid out by private industries and governmental agencies, compensation for industrial accidents, pensions to veterans, and also loans to World War veterans on their adjusted service certificates, and since June 1936 adjusted service certificate payments less prior loans. These latter items account for the sharp increase in this type of income in 1931 and 1936.

Source of Data: Statistics compiled by the U. S. Department of Commerce, Bureau of Foreign and Domestic Commerce, and published in the Survey of Current Business. The above data for the years 1929 to 1941, inclusive, were taken from, and the twelve-months' totals for the years 1942 to 1945, inclusive, are based on the monthly figures contained in the aforementioned publication.

Exhibit No. 46

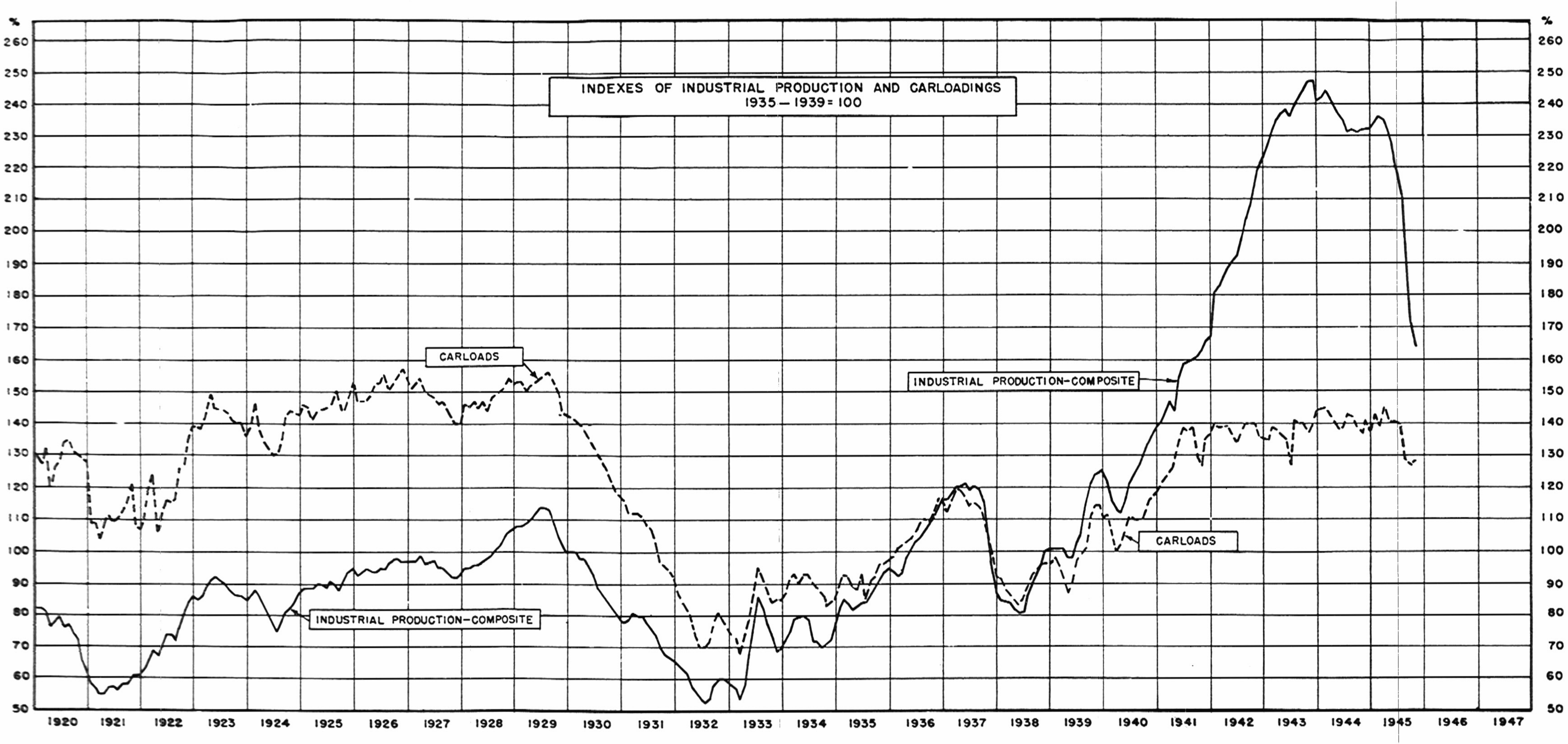
NATIONAL INCOME PAYMENTS AND COST OF LIVING INDEXES

1929 to 1945

Year or Period	National Income Payments 1935-39=100(1)	Cost of Living 1935-39=100(2)	National Income Payments at 1935-39 Prices
1929	122.4	122.5	99.9
1930	110.9	119.4	92.9
1931	94.4	108.7	86.8
1932	73.3	97.6	75.1
1933	69.6	92.4	75.3
1934	80.2	95.7	83.8
1935	87.3	98.1	90.0
1936	101.2	99.1	102.1
1937	107.3	102.7	104.5
1938	98.9	100.8	98.1
1939	105.3	99.4	105.9
1940	113.3	100.1	113.2
1941	137.8	105.2	131.0
1942	174.3	116.5	149.6
1943	212.7	123.5	172.2
1944	233.0	125.5	185.7
1945			
January	234.2	127.1	184.3
February	235.0	126.0	186.5
March	236.1	126.8	186.1
April	236.9	127.1	186.3
May	237.6	128.1	185.4
June	238.8	129.0	185.1
July	239.8	129.4	185.3
August	239.9	129.3	185.6
September	239.6	128.9	185.9

(1) Index numbers based on National Income Payments, compiled by U. S. Department of Commerce.

(2) Index numbers compiled by U. S. Bureau of Labor Statistics.


INDEXES OF INDUSTRIAL PRODUCTION AND CARLOADINGS
1935 — 1939 = 100
CARLOADS
INDUSTRIAL PRODUCTION—COMPOSITE
INDUSTRIAL PRODUCTION—COMPOSITE
CARLOADS
%
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
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1920
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1943
1944
1945
1946
1947

46

INDEXES OF INDUSTRIAL PRODUCTION AND CARLOADINGS

1935-1939= 100

INDUSTRIAL PRODUCTION - COMPOSITE

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	82	82	81	76	78	79	76	77	74	72	66	62	75
1921	58	57	55	55	57	57	56	58	58	62	61	61	58
1922	63	66	69	67	70	74	74	72	76	81	84	86	73
1923	85	86	89	91	92	91	90	88	87	86	86	85	88
1924	86	88	86	83	80	77	75	78	81	82	84	87	82
1925	89	89	89	90	90	89	91	90	88	92	94	95	91
1926	93	94	95	94	94	95	95	97	98	98	97	97	96
1927	97	97	99	96	97	97	95	95	94	92	92	93	95
1928	95	95	96	96	97	98	99	101	102	104	106	107	99
1929	108	108	109	110	112	114	114	114	113	110	105	100	110
1930	100	100	98	98	96	93	89	87	85	83	81	79	91
1931	78	79	81	80	80	78	76	74	70	68	67	66	75
1932	65	63	62	58	56	54	53	54	58	60	60	58	58
1933	58	57	54	58	68	78	86	82	77	73	69	70	69
1934	72	75	79	80	80	79	73	72	70	71	72	77	75
1935	83	85	84	82	83	84	84	87	89	92	94	95	87
1936	94	92	93	98	100	103	104	106	108	110	113	116	103
1937	116	118	120	120	121	119	120	119	115	107	96	87	113
1938	85	84	84	82	81	81	86	90	93	96	100	101	89
1939	101	101	101	98	98	103	105	105	114	121	124	125	108
1940	122	116	113	112	116	122	122	124	127	130	134	139	123
1941	140	144	147	144	154	159	160	160	161	163	166	167	155
1942	181	183	186	189	191	193	197	204	208	215	220	223	199
1943	227	232	235	237	238	236	239	242	244	247	247	241	239
1944	242	244	242	239	237	235	231	232	231	232	232	232	236
1945	234	236	235	231	226	220	211	187	171	164			

Above figures are adjusted for seasonal variation.

Source of Data: Federal Reserve Board Index of Industrial Production as reproduced in Standard & Poor's Trade and Securities-Statistics.

INDEXES OF INDUSTRIAL PRODUCTION AND CARLOADINGS

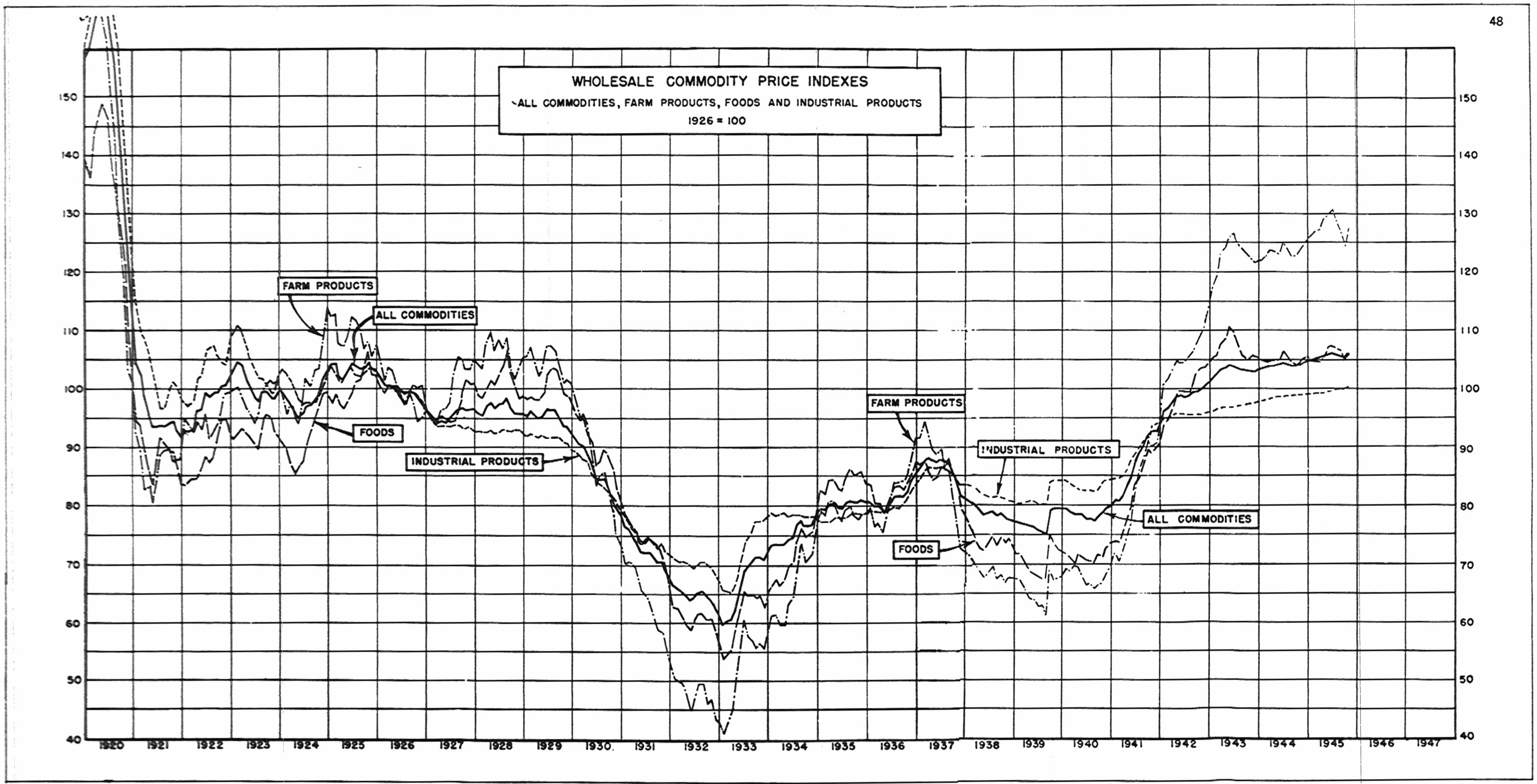
1935-1939= 100

CARLOADINGS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	130	127	132	119	126	128	134	135	132	130	129	128	129
1921	109	109	104	108	111	109	110	112	115	121	108	107	110
1922	110	120	124	106	112	116	115	116	126	127	135	139	121
1923	139	138	142	149	145	144	144	143	141	140	140	136	142
1924	139	146	139	134	132	130	131	135	142	144	143	143	139
1925	146	145	141	144	144	145	146	150	145	144	148	153	146
1926	147	147	147	149	152	153	155	151	152	155	157	154	152
1927	151	153	154	150	149	148	146	147	147	144	141	140	147
1928	146	145	147	145	147	144	148	149	150	151	154	152	148
1929	153	153	150	152	153	154	155	156	154	150	144	143	152
1930	142	141	136	138	135	133	131	129	126	122	119	117	131
1931	116	112	112	112	111	108	107	103	97	96	95	92	105
1932	87	84	82	80	74	70	70	72	77	81	78	76	78
1933	74	73	68	74	79	88	95	92	87	84	85	85	82
1934	87	91	93	90	93	93	90	89	87	83	84	85	89
1935	89	93	92	89	88	93	85	91	92	96	96	97	92
1936	98	101	94	103	104	106	109	110	109	111	116	116	107
1937	112	116	119	119	117	114	115	114	112	106	99	92	111
1938	91	88	86	82	83	85	88	90	92	95	95	96	89
1939	98	95	94	87	90	97	99	101	111	114	114	110	101
1940	111	105	100	103	106	111	110	112	112	110	116	119	109
1941	122	124	126	112	135	139	138	139	130	127	135	137	130
1942	140	138	138	138	136	134	137	140	140	140	136	135	138
1943	135	139	138	136	135	127	141	140	140	137	139	144	137
1944	145	143	140	138	138	139	143	142	139	137	141	137	140
1945	143	139	145	141	140	140	139	128	127	118			

Above figures are adjusted for seasonal variation.

Source of Data: Statistics computed by the Board of Governors of the Federal Reserve System from weekly data compiled by the Association of American Railroads, and published in the Federal Reserve Bulletin. The above data for the years 192-40, inclusive, were taken from Federal Reserve Bulletin for June 1941 (pp.530-533); and for subsequent months from various issues of the Federal Reserve Bulletin.



WHOLESALE COMMODITY PRICE INDEXES

ALL COMMODITIES, FARM PRODUCTS, FOODS AND INDUSTRIAL PRODUCTS

1926 = 100

Exhibit No. 46

WHOLESALE COMMODITY PRICE INDEXES

ALL COMMODITIES, FARM PRODUCTS, FOODS AND INDUSTRIAL PRODUCTS

1926 = 100

ALL COMMODITIES

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	157.7	157.1	158.6	165.5	167.2	166.5	165.8	161.4	155.2	144.2	133.4	120.7	154.4
1921	114.0	104.9	102.4	98.9	96.2	93.4	93.4	93.5	93.4	94.1	94.2	92.9	97.6
1922	91.4	92.9	92.8	93.2	96.1	96.3	99.4	98.6	99.3	99.6	100.5	100.7	96.7
1923	102.0	103.3	104.5	103.9	101.9	100.3	98.4	97.8	99.7	99.4	98.4	98.1	100.6
1924	99.6	99.7	98.5	97.3	95.9	94.9	95.6	97.0	97.1	98.2	99.1	101.5	98.1
1925	102.9	104.0	104.2	101.9	101.6	103.0	104.3	103.9	103.4	103.6	104.5	103.4	103.5
1926	103.2	102.0	100.6	100.3	100.5	100.4	99.5	99.1	99.7	99.4	98.4	97.9	100.0
1927	96.5	95.8	94.7	94.1	94.2	94.1	94.3	95.2	96.3	96.6	96.3	96.4	95.4
1928	96.4	95.8	95.5	96.6	97.5	96.7	97.4	97.6	98.6	96.7	95.8	95.8	96.7
1929	95.9	95.4	96.1	95.5	94.7	95.2	96.5	96.3	96.1	95.1	93.5	93.3	95.3
1930	92.5	91.4	90.2	90.0	88.8	86.8	84.4	84.3	84.4	83.0	81.3	79.6	86.4
1931	78.2	76.8	76.0	74.8	73.2	72.1	72.0	72.1	71.2	70.3	70.2	68.6	73.0
1932	67.3	66.3	66.0	65.5	64.4	63.9	64.5	65.2	65.3	64.4	63.9	62.6	64.9
1933	61.0	59.8	60.2	60.4	62.7	65.0	68.9	69.5	70.8	71.2	71.1	70.8	66.0
1934	72.2	73.6	73.7	73.3	73.7	74.6	74.8	76.4	77.6	76.5	76.5	76.9	75.0
1935	78.8	79.5	79.4	80.1	80.2	79.8	79.4	80.5	80.7	80.5	80.6	80.9	80.0
1936	80.6	80.6	79.6	79.7	78.6	79.2	80.5	81.6	81.6	81.5	82.4	84.2	80.8
1937	85.9	86.3	87.8	88.0	87.4	87.2	87.9	87.5	87.4	85.4	83.3	81.7	86.3
1938	80.9	79.8	79.7	78.7	78.1	78.3	78.8	78.1	78.3	77.6	77.5	77.0	78.6
1939	76.9	76.9	76.7	76.2	76.2	75.6	75.4	75.0	79.1	79.4	79.2	79.2	77.1
1940	79.4	78.7	78.4	78.6	78.4	77.5	77.7	77.4	78.0	78.7	79.6	80.0	78.6
1941	80.8	80.6	81.5	83.2	84.9	87.1	88.8	90.3	91.8	92.4	92.5	93.6	87.3
1942	96.0	96.7	97.6	98.7	98.8	98.6	98.7	99.2	99.6	100.0	100.3	101.0	98.8
1943	101.9	102.5	103.4	103.7	104.1	103.8	103.2	103.1	103.1	103.0	102.9	103.2	103.2
1944	103.3	103.6	103.8	103.9	104.0	104.3	104.1	103.9	104.0	104.1	104.4	104.7	104.0
1945	104.9	105.2	105.3	105.7	106.0	106.1	105.9	105.7	105.2	105.9			

WHOLESALE COMMODITY PRICE INDEXES

ALL COMMODITIES, FARM PRODUCTS, FOODS AND INDUSTRIAL PRODUCTS

1926 = 100

FARM PRODUCTS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	170.2	163.3	164.5	168.7	169.8	167.4	160.4	149.9	143.9	127.8	118.7	104.6	150.7
1921	101.6	92.7	89.9	82.8	83.1	80.6	86.5	88.9	89.7	89.7	87.6	87.9	88.4
1922	88.0	95.1	93.4	92.6	94.3	92.8	95.6	91.2	92.4	94.2	97.8	99.2	93.8
1923	99.6	100.0	100.2	98.5	96.7	96.0	94.0	95.8	100.0	100.6	101.8	101.0	98.6
1924	101.4	98.8	95.7	97.3	95.1	94.3	98.6	102.0	100.4	103.2	103.6	108.3	100.0
1925	113.8	112.4	112.8	107.6	107.3	109.3	112.1	111.6	110.0	107.0	108.1	105.4	109.8
1926	107.4	105.1	101.7	102.8	102.4	100.9	98.6	97.2	99.3	97.9	94.7	94.9	100.0
1927	96.5	95.4	94.2	94.3	96.3	96.5	97.6	102.3	105.9	105.0	104.3	104.4	99.4
1928	106.1	104.5	103.5	107.6	109.8	106.7	108.5	106.9	108.8	103.4	101.6	103.6	105.9
1929	105.9	105.4	107.2	104.9	102.2	103.3	107.6	107.5	106.6	104.0	101.1	101.9	104.9
1930	101.0	98.0	94.7	95.8	93.0	88.9	83.1	84.9	85.3	82.5	79.3	75.2	88.5
1931	73.1	70.1	70.6	70.1	67.1	65.4	64.9	63.5	60.5	58.8	58.7	55.7	64.8
1932	52.8	50.6	50.2	49.2	46.6	45.7	47.9	49.1	49.1	46.9	46.7	44.1	48.2
1933	42.6	40.9	42.8	44.5	50.2	53.2	60.1	57.6	57.0	55.7	56.6	55.5	52.1
1934	58.7	61.3	61.3	59.6	59.6	63.3	64.5	69.8	73.4	70.6	70.8	72.0	65.4
1935	77.6	79.1	78.3	80.4	80.6	78.3	77.1	79.3	79.5	78.2	77.5	78.3	78.8
1936	78.2	79.5	76.5	76.9	75.2	78.1	81.3	83.8	84.0	84.0	85.1	88.5	80.9
1937	91.3	91.4	94.1	92.2	89.8	88.5	89.3	86.4	85.9	80.4	75.7	72.8	86.4
1938	71.6	69.8	70.3	68.4	67.5	68.7	69.4	67.3	68.1	66.8	67.8	67.6	68.6
1939	67.2	67.2	65.8	63.7	63.7	62.4	62.6	61.0	68.7	67.1	67.3	67.6	65.3
1940	69.1	68.7	69.7	69.4	67.9	66.2	66.5	65.6	66.2	66.4	68.2	69.7	67.7
1941	71.6	70.3	71.6	74.4	76.4	82.1	85.8	87.4	91.0	90.0	90.6	94.7	82.4
1942	100.8	101.3	102.8	104.5	104.4	104.4	105.3	106.1	107.8	109.0	110.5	113.8	105.9
1943	117.0	119.0	122.8	123.9	125.7	126.2	125.0	123.5	123.1	122.2	121.4	121.8	122.6
1944	121.8	122.5	123.6	123.2	122.9	125.0	124.1	122.6	122.7	123.4	124.4	125.5	123.5
1945	126.2	127.0	127.2	129.0	129.9	130.4	129.0	126.9	124.3	127.3			

Exhibit No. 46

WHOLESALE COMMODITY PRICE INDEXES

ALL COMMODITIES, FARM PRODUCTS, FOODS AND INDUSTRIAL PRODUCTS

1926 = 100

FOODS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	145.1	138.2	136.1	144.6	147.3	149.0	146.8	138.4	134.8	127.7	123.9	109.7	137.4
1921	103.9	94.6	93.6	89.9	86.0	83.9	87.5	91.8	90.6	89.6	89.4	86.8	90.6
1922	83.8	83.7	84.2	84.3	84.8	86.2	88.4	87.3	88.6	91.6	94.8	95.0	87.8
1923	92.3	91.2	92.6	93.3	92.3	91.7	90.5	89.9	94.0	95.8	95.1	92.9	92.7
1924	91.4	90.8	89.2	86.7	85.3	86.5	87.4	90.3	92.8	94.9	97.1	99.3	91.0
1925	99.7	97.7	99.1	97.3	96.7	97.8	99.4	101.2	101.6	103.8	106.2	102.4	100.2
1926	102.6	100.6	99.3	100.5	100.1	100.5	98.7	97.5	99.8	100.7	100.4	100.6	100.0
1927	97.1	96.1	94.7	94.9	95.3	94.8	94.3	94.5	96.6	100.0	101.4	100.7	96.7
1928	100.9	98.8	98.2	99.7	101.2	100.3	102.2	103.8	106.5	102.1	100.0	98.1	101.0
1929	98.9	98.1	98.3	98.0	98.0	99.1	102.9	103.5	103.3	101.4	98.9	98.7	99.9
1930	97.3	95.8	94.3	94.9	92.2	90.8	86.8	87.6	89.5	88.8	86.2	82.4	90.5
1931	80.7	78.0	77.6	76.3	73.8	73.3	74.0	74.6	73.7	73.3	71.0	69.1	74.6
1932	64.7	62.5	62.3	61.0	59.3	58.8	60.9	61.8	61.8	60.5	60.6	58.3	61.0
1933	55.8	53.7	54.6	56.1	59.4	61.2	65.5	64.8	64.9	64.2	64.3	62.5	60.6
1934	64.3	66.7	67.3	66.2	67.1	69.8	70.6	73.9	76.1	74.8	75.1	75.3	70.6
1935	79.9	82.7	81.9	84.5	84.1	82.8	82.1	84.9	86.1	85.0	85.1	85.7	83.7
1936	83.5	83.3	80.1	80.2	78.0	79.9	81.4	83.1	83.3	82.6	83.9	85.5	82.1
1937	87.1	87.0	87.5	85.5	84.2	84.7	86.2	86.7	88.0	85.5	83.1	79.8	85.5
1938	76.3	73.5	73.5	72.3	72.1	73.1	74.3	73.0	74.5	73.5	74.1	73.1	73.6
1939	71.5	71.5	70.2	68.6	68.2	67.6	67.5	67.2	75.1	73.3	72.3	71.9	70.4
1940	71.7	71.1	70.2	71.6	71.4	70.3	70.3	70.1	71.5	71.1	72.5	73.5	71.3
1941	73.7	73.5	75.2	77.9	79.5	83.1	84.7	87.2	89.5	88.9	89.3	90.5	82.7
1942	93.7	94.6	96.1	98.7	98.9	99.3	99.2	100.8	102.4	103.4	103.5	104.3	99.6
1943	105.2	105.8	107.4	108.4	110.5	109.6	107.2	105.8	105.0	105.1	105.8	105.6	106.8
1944	104.9	104.5	104.6	104.9	105.0	106.5	105.8	104.8	104.2	104.2	105.1	105.5	105.0
1945	104.7	104.7	104.6	105.8	107.0	107.5	106.9	106.4	104.9	105.7			

Exhibit No. 46

WHOLESALE COMMODITY PRICE INDEXES

ALL COMMODITIES, FARM PRODUCTS, FOODS AND INDUSTRIAL PRODUCTS

1926 = 100

INDUSTRIAL PRODUCTS

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Av.
1920	153.3	159.2	162.8	169.0	170.6	170.5	173.4	174.2	167 4	158.0	144.0	133.3	161.3
1921	124.2	114.1	110.0	108.3	105.5	102.4	99.2	96.7	96.8	99.8	101.4	100.1	104.9
1922	98.1	97.5	97.0	97.8	101.9	102.2	106.3	106.9	107.1	105.4	104.3	104.1	102.4
1923	107.0	109.3	110.6	110.0	107.4	105.1	103.4	102.0	101.8	100.6	99.3	99.5	104.3
1924	102.4	103.5	102.8	101.4	100.0	98.1	97.4	97.7	97.7	97.7	98.8	100.6	99.7
1925	101.4	104.0	102.8	101.3	101.6	102.9	103.8	102.3	101.9	102.7	103.8	103.7	102.6
1926	102.5	101.7	100.8	100.0	100.1	100.1	99.4	99.6	99.6	99.4	99.1	98.0	100.0
1927	96.5	95.8	94.5	93.5	93.4	93.5	93.4	93.6	93.9	93.5	93.0	93.3	94.0
1928	92.8	92.9	92.6	92.7	92.9	92.6	92.6	92.9	93.0	92.9	92.9	93.0	92.9
1929	92.3	91.9	92.1	91.8	91.5	91.9	91.7	91.4	91.6	91.6	90.8	90.5	91.6
1930	89.5	89.0	88.2	87.8	87.3	85.7	84.5	83.6	83.2	82.1	81.1	80.3	85.2
1931	79.0	78.3	77.2	75.9	75.1	74.1	73.9	74.2	73.9	72.9	73.5	72.3	75.0
1932	71.7	71.3	70.9	70.9	70.4	70.1	69.7	70.1	70.4	70.2	69.8	69.0	70.4
1933	67.3	66.0	65.8	65.3	66.5	68.9	72.2	74.1	76.1	77.2	77.2	77.5	71.2
1934	78.3	78.7	78.5	78.6	78.9	78.2	78.4	78.3	78.3	78.0	78.0	78.0	78.4
1935	77.7	77.4	77.3	77.2	77.6	78.0	77.9	77.8	78.3	78.8	78.7	78.7	77.9
1936	78.8	79.0	78.9	78.9	78.8	78.8	79.5	79.7	79.6	80.1	81.0	82.2	79.6
1937	83.4	84.1	85.5	86.5	86.3	86.1	86.3	86.1	85.9	85.1	84.3	83.6	85.3
1938	83.5	83.0	82.6	82.0	81.6	81.3	81.4	81.4	81.3	81.1	80.6	80.3	81.7
1939	80.2	80.2	80.4	80.5	80.6	80.2	80.2	80.1	82.1	83.8	84.0	83.9	81.4
1940	83.9	83.2	82.9	82.5	82.5	82.2	82.3	82.0	82.3	83.5	84.1	84.1	83.0
1941	84.3	84.4	84.9	85.9	87.4	88.6	89.7	90.8	91.6	93.4	93.5	93.7	89.0
1942	94.6	94.9	95.2	95.6	95.7	95.6	95.7	95.6	95.5	95.5	95.8	95.9	95.5
1943	96.0	96.2	96.5	96.6	96.7	96.8	96.9	97.1	97.2	97.3	97.4	97.6	96.9
1944	97.8	98.0	98.1	98.4	98.5	98.5	98.5	98.6	98.6	98.7	98.8	98.9	98.5
1945	99.1	99.2	99.2	99.3	99.4	99.6	99.7	99.9	99.8	100.1			

Source of Data: The Wholesale Commodity Price Indexes were computed by the United States Bureau of Labor Statistics and are contained in their publications. The Price Indexes are reproduced in Standard & Poor's Trade and Securities (Published by Standard & Poor's Corporation) Volume 3, Pages D-8 and D-9, dated April 29, 1938, and Current Statistics Section. The above figures were taken from Standard & Poor's Trade and Securities.

Exhibit No. 46

LIQUID ASSET HOLDINGS OF BUSINESS AND INDIVIDUALS

1939 - 1944

(In Billions of Dollars)

	Dec. 1939	Dec. 1940	Dec. 1941	Dec. 1942	Dec. 1943	Dec. 1944
Financial Corporations	$ 1.7	$ 1.9	$ 2.2	$ 2.6	$ 3.0	$ 3.5
Non-Financial Corporations	11.3	13.0	15.3	24.4	35.1	43.6
Unincorporated Business	4.5	5.4	6.7	10.0	13.5	18.9
Total Business Holdings	17.5	20.3	24.2	37.0	51.6	66.0
Trust Funds	4.4	4.6	5.3	7.5	10.7	12.7
Other Personal Holdings	44.0	46.7	52.6	68.2	90.7	114.9
Total Personal Holdings	48.4	51.3	57.9	75.7	101.4	127.6
Grand Total	65.9	71.6	82.1	112.7	153.0	193.6
Made up as Follows:						
Currency	6.2	7.1	9.4	13.7	18.6	23.3
Demand Deposits	21.3	25.1	28.3	37.2	48.3	54.7
Time Deposits	26.3	26.9	26.9	27.7	32.0	38.9
U.S. Government Securities	12.1	12.5	17.5	34.1	54.1	76.7
Grand Total	$65.9	$71.6	$82.1	$112.7	$153.0	$193.6

Source: Federal Reserve Bulletin, June 1945.